Government
Publications

SESSIONAL PAPERS.

VOL. XXXV.—PART VI.

FIRST SESSION, TENTH LEGISLATURE

OF THE

PROVINCE OF ONTARIO.

SESSION 1903.

TORONTO:
PRINTED AND PUBLISHED BY L. K. CAMERON
Printer to the King's Most Excellent Majesty.
1903.

1091151

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ARRANGED ALPHABETICALLY.

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Births, Marriages and Death, Report	9	"
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Bribery Charges, Commission, Report, etc	51	*Printed.*
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Children, Neglected, Report	43	*Printed.*
Common Gaols, Prisons, etc., Report	39	"
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Deaf and Dumb Institution, Report	42	"
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Game Commission, Report	30	*Printed.*
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Health Report	36	*Printed.*
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San José Scale, Report	21	*Printed.*
Secretary and Registrar, Report	37	"
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No. 1.. Public Accounts of the Province for the year 1902. Presented to the Legislature, 21st March, 1903

No. 2.. Estimates (*Vote of Credit*) for the year 1903. Presented to the Legislature, 11th March, 1903. *Not printed.* Estimates (*Vote of Credit*) for the year 1903. Presented to the Legislature, 31st March, 1903 *Not printed.* Estimates for the year 1903. Presented to the Legislature, 23rd April, 1903. *Printed.* Estimates (*Supplementary*) for the year 1903. Presented to the Legislature, 10th June, 1903. *Printed.*

No. 3.. Report of the Commissioner of Crown Lands for the year 1902. Presented to the Legislature, 23rd March, 1903. *Printed.*

No. 4.. Report of the Proceedings of the Inter-Provincial Conference held at the City of Quebec from the 18th to the 20th December, inclusive. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 5.. Report of the Bureau of Mines for the year 1902. Presented to the Legislature, 30th April, 1903. *Printed.*

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No. 6.. Report of the Commissioners for the Queen Victoria Niagara Falls Park for the year 1902. Presented to the Legislature. 5th May, 1903. *Printed.*

No. 7.. Report of the Commissioner of Public Works for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 8.. Report of the Inspectors of Factories for the year 1902. Presented to the Legislature, 3rd June, 1903. *Printed.*

No. 9.. Report relating to the Registration of Births, Marriages and Deaths for the year 1901. Presented to the Legislature, 21st March, 1903. *Printed*

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No. 10.. Report of the Inspector of Insurance and Registrar of Friendly Societies for the year 1902. Presented to the Legislature, 11th June, 1903. *Printed.*

No. 11.. Loan Corporations Statements for the year 1902. Presented to the Legislature, 19th May, 1903. *Printed.*

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No. 12.. Report of the Minister of Education—Parts I. and II.—with Report on Archæology for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 13.. Auditor's Report to the Board of Trustees on Capital and Income Accounts, and Report of the President of the University of Toronto for the year 1902. Presented to the Legislature, 21st March and 8th May, 1903. *Printed.*

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No. 14 . Report of the Ontario Agricultural College and Experimental Farm for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 15.. Report of the Ontario Agricultural and Experimental Union for the year 1902. Presented to the Legislature, 2nd June, 1903. *Printed.*

No. 16.. Report of the Fruit Growers' Association of Ontario for the year 1902. Presented to the Legislature, 8th June, 1903. *Printed.*

No. 17.. Report of the Fruit Experiment Stations of Ontario for the year 1902. Presented to the Legislature, 26th May, 1903. *Printed.*

No. 18.. Report of the Inspector of Fumigation Appliances for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No 19.. Report of the Entomological Society for the year 1902. Presented to the Legislature, 21st April, 1903. *Printed.*

No. 20. Report of the Bee-Keepers' Association of Ontario for the year 1902. Presented to the Legislature, 8th June, 1903. *Printed.*

No. 21.. Report of the Inspector of San José Scale for the year 1902. Presented to the Legislature, 23rd March, 1903. *Printed.*

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No. 22.. Reports of the Dairymen's Associations for the year 1902. Presented to the Legislature, 5th May, 1903. *Printed.*

No. 23.. Reports of the Live Stock Associations of Ontario for the year 1902. Presented to the Legislature, 8th June, 1903. *Printed.*

No. 24.. Report of the Registrar of Live Stock of Ontario for the year 1902. Presented to the Legislature, 8th June, 1903. *Printed.*

No. 25.. Report of the Farmer's Institutes of Ontario for the year 1902. Presented to the Legislature, 8th June, 1903. *Printed.*

No. 26.. Report of the Ontario Fairs and Exhibitions for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

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No. 28.. Report of the Bureau of Industries for the year 1902. Presented to the Legislature, 8th June, 1903. *Printed.*

No. 29.. Report of the Bureau of Labour for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 30.. Report of the Ontario Game Commission for the year 1902 Presented to the Legislature, 23rd March, 1903. *Printed.*

No. 31.. Report of the Department of Fisheries for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 32.. Report of the Treasurer *in re* Fidelity Bonds, 1903. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 33.. Report of the Inspector of Division Courts for the year 1902. Presented to the Legislature, 19th May, 1903. *Printed.*

No. 34.. Report of the Inspector of Legal Offices for the year 1902. Presented to the Legislature, 15th May, 1903. *Printed.*

No. 35.. Report of the Inspector of Registry Offices for the year 1902. Presented to the Legislature, 3rd June, 1903. *Printed.*

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No. 37.. Report of the Secretary and Registrar of the Province for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 38.. Report upon the Lunatic and Idiot Asylums of the Province for the year ending 30th September, 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 39.. Report upon the Prisons and Reformatories of the Province for the year ending 30th September, 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 40.. Report upon the Hospitals and Charities of the Province for the year ending 30th September, 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 41.. Report upon the Ontario Institution for the Education of the Blind, Brantford, for the year ending 30th September, 1903. Presented to the Legislature, 21st March, 1902. *Printed.*

No. 42.. Report upon the Ontario Institution for the Education of the Deaf and Dumb, Belleville, for the year ending 30th September, 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

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No. 43.. Report upon Neglected and Dependent Children for the year 1902. Presented to the Legislature, 23rd March, 1903. *Printed.*

No. 44.. Report upon the Inspection of Liquor Licenses for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 45.. Report of the Provincial Municipal Auditor for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 46.. Return from the Records of the General Elections to the Legislative Assembly on 29th May, 1902, shewing:—(1) The number of Votes polled for each Candidate in each Electoral District in which there was a contest. (2) The majority whereby each successful Candidate was returned. (3) The total number of Votes polled in each District. (4) The number of Votes remaining Unpolled. (5) The number of Names on the Voters' Lists in each District. (6) The Population of each District as shewn by the last Dominion Census. (7) Similar Statements as to any Elections held since the General Election. (8) A General Summary of Votes cast in each Electoral Division. Presented to the Legislature, 10th March, 1903. *Printed.*

No. 47.. Report of the Librarian on the state of the Library. Presented to the Legislature, 10th March, 1903. *Not Printed.*

No. 48.. Return from the Records on the vote for and against the adoption of the Liquor Act, 1902, shewing:—(1) The number of Polling Subdivisions. (2) The number of votes for and against the adoption of the Act. (3) The total number of Votes polled. (4) The number of votes remaining unpolled. (5) The number of names on the Voters' Lists. (6) The number of Ballot papers sent out to each sub-division. (7) The number of Ballot papers used. (8) The number unused. (9) The number of rejected and spoiled Ballots, and (10) The Population of each Electoral District. Presented to the Legislature, 10th March, 1903. *Printed.*

No. 49.. Report of the Temiskaming Northern Railway Commission for the year 1902. Presented to the Legislature, 21st March, 1903. *Printed.*

No. 50.. Report upon the Sugar Beet Experiments in Ontario for the year 1902. Presented to the Legislature, 12th May, 1903. *Printed.*

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No. 51.. Copy of Commission of Enquiry in the matter of certain charges made by Robert Roswell Gamey, a member of the Legislative Assembly, against James Robert Stratton, a Member of the Executive Council of Ontario, and also a Member of the Legislative

Assembly; and the Report of the Royal Commission appointed, together with the Arguments of Counsel and Evidence taken before the Commission. Presented to the Legislature on the 18th March, and the 4th June, 1903. *Printed.*

No. 52.. Report into the loss and damage caused by the Cyclone which devastated a portion of the Province, in Dundas and Stormont during the year 1902. Presented to the Legislature, 25th March, 1903. *Not printed.*

No. 53.. Copies of Orders-in-Council under the provisions of the Judicature Act commuting fees J F. Hare, Local Master in Essex, and authorizing certain payment to Judge McHugh, of Essex. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 54.. Report of the Commercial Work of the Canadian Section of the Imperial Institute, during the year 1902. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 55.. Copy of Order-in-Council with respect to Regulations under the Succession Duties Act. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 56. Copies of Orders in-Council *in re* recommendations of the Education Department. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 57.. Copy of Order-in-Council, respecting Specialist's Courses in the University of Kingston. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 58.. Copy of Order-in-Council as to agreement with the Canada Publishing Company, Limited; the Copp, Clark Company, Limited, and the W. J. Gage Company, Limited, regarding the Public School Phonic Primer. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 59.. Copy of Order-in-Council as to agreement with the Hunter Rose Company, Limited, respecting High School Euclid. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 60.. Copy of Order-in-Council *in re* Regulations governing Public Schools. Presented to the Legislature, 21st, 1903. *Printed.*

No. 61.. Copy of Order-in-Council as to agreement, amending a certain agreement with the George N. Morang Company, Limited, respecting publication of a first book of Geography. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 62.. Copy of Order-in-Council as to agreements with the George N. Morang Company, Limited, respecting certain school books. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 63.. Copy of an Order-in-Council *in re* Regulations pertaining to School Libraries. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 64.. Statement as to the distribution of the Revised and Sessional Statutes, 1898-1902. Presented to the Legislature, 21st March, 1903. *Not printed.*

No. 65.. Report of the Master of Titles in respect to the working of the Land Titles system, in the Province, during the years 1900, 1901 and 1902. Presented to the Legislature, 23rd March, 1903. *Printed.*

No. 66.. Agreement between His Majesty, represented by the Commissioner of Crown Lands, and the Rainy Lake Pulp and Paper Company, Limited. Presented to the Legislature, 19th May, 1903. *Printed.*

No. 67.. Return to an Order of the House of the twenty-third day of April, 1903, for a Return showing account in detail of timber dues paid or owing to the Province in respect of timber cut upon Crown lands in the Townships of Elzevir and Grimsthorpe in the season of 1901-2. Also, shewing amount due to the said municipalities during same period. Presented to the Legislature, 30th March, 1903. Mr. *Pearce. Not printed.*

No. 68.. Report of the Ontario Historical Society, 1901, 1902. Presented to the Legislature, 1st May, 1904. *Not printed.*

No. 69.. By-law No. 16, under the University Act *in re* Faculty of Medicine as to expenditure of $50,000 towards completion of Building. Presented to the Legislature, 6th May, 1903. *Not printed.*

No. 70.. Statement of fees received by the Master of Titles during the years 1900, 1901 and 1902. Presented to the Legislature, 8th May, 1903. *Not printed.*

No. 71.. Return to an Order of the House of the twenty-fourth day of April, 1903, for a Return from the Office of the Master of Titles, shewing 1. Total number of Certificates issued. 2. Number of registrations for the past three years. 3. Fees received in all offices for the past three years. 4. Expenses. 5. Total amount received from the Guarantee Fund in the different offices during the past three years. 6. Total amount received from the Guarantee Fund since the same went into operation. 7. Losses and all other charges against the Guarantee Fund. 8. Total amount standing to the credit of the Guarantee Fund. Presented to the Legislature, 8th May, 1903. Mr. *St. John. Not printed.*

No. 72.. Return to an Order of the House of the fourth day of May, 1903, for a Return shewing the number of young Boys and Girls committed to the County Gaols of the Province during the years 1900, 1901 and 1902 respectively. Presented to the Legislature, 11th May, 1903. Mr. *Hoyle. Not printed.*

No. 73.. Return to an Address of the eighth day of May, 1903, to His Honour the Lieutenant-Governor praying that he will cause to be laid before this House a Return of copies of all Awards made by the Arbitrators between the Dominion and the Provinces, since the date of the last Return. Also, a statement of the Account between Ontario and the Dominion from 31st December, 1892, to 31st December, 1902, as settled by the Counsel for the Province and the Dominion. Together with copies of correspondence between the Minister of Finance of the Dominion and the Provincial Treasurer of Ontario. Presented to the Legislature, 14th May, 1903. Mr. *Matheson. Printed.*

No. 74.. Return to an Order of the House of the Eleventh day of May, 1903, for a Return of copies of all correspondence, agreements and other documents, relating to any application, or agreement between the Government and the Toronto and Niagara Power Company, or any other person, or persons, since the first day of January, 1902, for a grant, or proposed grant of water power from the Niagara or Welland Rivers, for the purpose of generating pneumatic, or other power. Presented to the Legislature, 21st May, 1903. Mr. *Foy. Not printed.*

No. 75.. Return to an Order of the House of the Twentieth day of May, 1903, for a Return of copies of all correspondence between the Department of Public Works, or any officer thereof, and any applicant or applicants, for fishing rights or fishing concessions for commercial purposes, in Lakes Nepigon, Manitou and other Lakes in Ontario, since the first day of May, 1902, together with copies of all agreements for fishing rights, or fishing concessions, since said date. Presented to the Legislature, 28th May, 1903. Mr. *Hendrie Not printed.*

No. 76.. Return to an Order of the House of the Twentieth day of May, 1903, for a Return of copies of all correspondence, papers and documents relating in any way to the appointment of one John McMaster, in or about the month of May, 1902, as overseer of work to be performed on Markstay and Warren Road in Algoma or Nipissing, and to the work done, security given and money advanced or expended in connection therewith. Presented to the Legislature, 28th May, 1903. Mr. *Nesbitt. Not printed.*

No. 77.. Return to an Order of the House of the twenty-seventh day of May, 1903, for a Return shewing the amount of money annually expended by the Province under the "Mines Act," for the encouragement of iron mining. The names of the persons, companies or firms to whom the money has been paid. The amount of iron ore annually mined and smelted in the Province; shewing as well the amount of foreign ore annually smelted in the Province. Presented to the Legislature, 29th May, 1903. Mr. *Hoyle. Not printed.*

No. 78.. Copy of Order in Council approved by His Honour the Lieutenant Governor, on the eleventh day of June, 1902, respecting a certain

Agreement with the Sturgeon Falls Pulp Company, Limited. Presented to the Legislature, 1st June, 1903. *Printed.*

No. 79.. Copy of an Agreement bearing date of the seventh day of May, 1903, by and between the Sturgeon Falls Pulp Company, Limited, and the Imperial Paper Mills of Canada, Limited. Presented to the Legislature, 1st June, 1903. *Printed.*

No. 80.. Return to an Order of the House of the fourth day of June, 1903, for a Return of copies of all correspondence between the Attorney-General or any other Member of the Government and the County Council of Frontenac, with reference to a Resolution of the County Council asking for the dismissal of the Sheriff of the County; together with copies of all correspondence between the Government, or any Member thereof, and James Dunkin Thompson, Registrar of the County of Frontenac, and Thomas Dawson, Sheriff of the said County, as to the appointment of a Returning Officer for the County, at the last Provincial Election. Presented to the Legislature, 16th June, 1903. Mr. *Gallagher. Not printed.*

No. 81.. Return to an Order of the House of the twenty-eighth day of May, 1903, for a Return of Copies of all correspondence between any Member of the Government and James A. Browning of Bellingham, Ontario, relating to the imprisonment of the latter, on a charge of obtaining property on false pretences. Presented to the Legislature, 26th June, 1903. Mr. *Smyth. Not printed.*

ANNUAL REPORTS

OF THE

DAIRYMEN'S ASSOCIATIONS

OF THE

PROVINCE OF ONTARIO,

1902.

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE.)

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO:
Printed by L. K. CAMERON,
Printer to the King's Most Excellent Majesty.
1903.

WARWICK BRO'S & RUTTER, Printers.
TORONTO.

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OFFICERS FOR 1903.

DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

Honorary President—Hon. Thomas Ballantyne, Stratford.
Honorary Vice-President—Aaron Wenger, Ayton.
President—James Connolly, Porter's Hill.
First Vice-President—J. N. Paget, Canboro.
Second Vice-President—Robert Johnston, St. Thomas.
Third Vice-President—T. B. Millar, London.
Secretary-Treasurer—George Hately, Brantford.
Auditors—J. A. Nelles, London; J. C. Hegler, Ingersoll.

Directors.

John McQuaker, Owen Sound.
John H. Scott, Culloden.
W. K. MacLeod, Vanneck.
A. F. MacLaren, M.P., Stratford.
Harold Eagle, Attercliffe Station.
T. Ballantyne, Jr. Stratford.
I. W. Steinhoff, Stratford.

Representatives to Industrial Fair, Toronto—A. F. MacLaren, J. N. Paget.
Representatives to Western Fair, London—T. B. Millar, London; John Brodie, Mapleton.

DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO.

President—D. Derbyshire, Brockville.
Vice-Presidents—John McTavish, Vancamp.; L. L. Gallagher, Wilton.; John Echlin, Carleton Place.
Secretary—R. G. Murphy, Brockville.
Treasurer—W. A. Parker, Stirling.
Auditors—Morden Bird, Stirling.; F. W. Brenton, Belleville.

Directors.

Edward Kidd, North Gower.
William Eager, Morrisburg.
John R. Dargavel, Elgin.
James Whitton, Wellman's Corners.
T. B. Carlaw, Warkworth.
Henry Glendenning, Manilla.

Instructors.

A. P. Purvis, Maxville.
L. A. Zufelt, Chesterville.
G. G. Publow, Perth.
A. B. Rabb, Brockville.
R. W. Ward, Foxboro.
G. H. Bensley, Warkworth.
H. H. Howey, Belleville.
J. B. Lowery, Frankford.
S. G. Lawson, St. Andrews.
W. J. Carson, Kingston.

DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

ANNUAL MEETING.

The thirty-sixth Annual Convention of the Dairymen's Association of Western Ontario, was held at the city of Brantford, January 13, 14, and 15, 1903. Meetings were held at the Brantford Opera House and at Victoria Hall, where a large exhibition of butter and cheese was held. A number of local farmers and citizens took an interest in the meetings, especially in the butter and cheese exhibits.

PRESIDENT'S ADDRESS.

By Aaron Wenger, Ayton.

This year we are holding our Convention in the beautiful city of Brantford, the third manufacturing city in the Dominion of Canada. It is an inland place, and has not extensive water power, yet we find it is one of the very best cities in the Province. Seven years ago, when we last met here, Brantford was considered an out-of-the-way place in reference to our dairy interests, but to-day we find that Brantford has probably the best cheese market in Western Ontario, though there are markets where more cheese are sold. The businsss is done here in a systematic, legitimate way. I am told that all the cheese that is boarded here is sold on the board and not on the curb, and I believe that is the proper way of doing it. I do not approve doing business on the side. I believe that the salesmen are doing themselves an injustice by doing so.

This past year has been a banner season for the dairy business in this country. The exports of cheese were about 2,500,000 boxes, which brought us a revenue of $21,000,000 (applause), being 68 per cent. of the cheese imported by Great Britain. That is a grand record. No other country in the world has put into Great Britain the quantity of cheese that we have. We have supplied Great Britain with two-thirds of her imported cheese; besides which we have exported to Great Britain over 600,000 packages of butter, bringing us a revenue of $9,000,000. (Applause.) A few years ago Canada was not considered to be exporting any butter. The quantity was small, barely worth considering. This $9,000,000 that came to Canada for butter represents only 7 per cent. of the butter imported to Great Britain. This will give you an idea of the outlet there is in that market for Canadian butter. We find that Canadian butter this year is very much appreciated in England. It holds a position almost equal to the Danish butter. Denmark is a small country, paying her whole attention to butter and bacon; and, being only across the channel from England, gets the better part of that trade. Canada is a colony of Great Britain, and the most friendly feeling exists towards us, so if we make the proper goods there is no doubt the British people will buy from us. Canada is now recognized in Great Britain as being the most important colony in the British Empire. The British people know more about us than they did some years ago, and we want to attain the position in that market that we should have with our butter. We have gone as far as we should in the manufacturing of cheese, and I do not think we should try to increase our shipments of cheese for fear of overstocking the market. There

are great possibilities, however, of increasing our trade in butter. I think we should direct our energy in that channel. Let us keep up the quality and the quantity of cheese and increase the butter export, looking well to improving the quality.

Just imagine for a moment the amount of money that is brought to this country for butter and cheese, $30,000,000, this last year. Consider what it has produced for us in by-products. The export of bacon was about $15,000,000, and bacon is largely the by-product of the dairy industry. $45,000,000 for these three items is that much money put into the hands of our farmers as an inspiration to them to put up better dwellings, barns and factories. The condition of the farmers and farms are very much improved in this respect from what they were in former years. I am living in a part of the country that has been settled for only about 45 years, and I find that many of the farmers there, during the past few years, have been enlarging their barns, thus preparing for larger crops. The land is coming back to the old fertility, and the barns are too small.

We have not yet attained the standard of milk production we should in this country. The product of this last year has been better than in former years, still there is opportunity for improvement, and that is the idea of this convention, to compare notes and advise with each other as to the best way of improving.

In many districts the patrons of factories are not so well placed as they are through the Stratford and Ingersoll districts, and it is desirable to bring best instructions direct to such farmers. Last year the Hon. Mr. Dryden suggested to our Association the advisability of apportioning 15 or 20 factories to one Instructor, and Mr. Barr, a capable cheese maker, was placed in charge of this work in such a district west of Toronto, and the progress made in this section has been such as to warrant a further extension of the system. Mr. Publow, who has been an Instructor under the Eastern Dairymen's Association for many years, was given a district east of Toronto in the same way, while Mr. Archibald Smith, Superintendent of the Strathroy Dairy School, was given charge of the butter business west of Toronto, as Instructor. Mr. Smith has done so well that we have received more money for our butter in the district he had charge of than we ever received in any former year. Mr. Hart, Superintendent of the Kingston Daiy School, was put in charge of butter interests in the section east of Toronto, with most satisfactory results. There are to be a great many sub-instructors to work directly under these Chief Instructors, and these Chief Instructors will be held responsible for the work done by these men. The Ontario Government is giving much assistance, and we trust will in future see its way clear to do much more in assisting to build up these important industries.

The Dominion Government has done grand work in giving us cold storage apartments on boats and railway cars, as well as assisting creameries to erect suitable cold storage, and in erecting Experimental cold storage stations for curing cheese. With the assistance of the Government, and with the energy and improved methods being yearly introduced into manufactories, our dairy interests must yearly increase, bringing wealth and comfort to our people.

We are told by chemists and experts that in selling a ton of cheese we are selling about $5 worth of fertility from the farm, and we are told by the same authorities that the fertility represented in a ton of butter is a very trifling affair, probably less than 20 cents per ton of butter, and when we consider it takes 2 1-2 times as much milk to make a ton of butter as to make a ton of cheese, the amount is very small indeed. This, I hold, is

another fact that should encourage us to extend the butter-making industry rather than the cheese industry.

This last year we received $5,000,000 more for our cheese and butter than we did in the year 1901. (Applause.) That is a convincing proof that the dairy industry is keeping well to the front, and I think it a much better business for our progressive boys and young men to engage in than going to the Yukon or mining sections prospecting for gold, which is at the best a most uncertain venture. But the man who makes the butter and cheese in this country knows that he will get value for his labor, and at the same time is doing a noble work in building up Ontario.

We are in a better position to increase our business for 1903 than we were at the beginning of last year to increase it for 1902.

As we have a great array of the most brilliant men in Canada to address you, I will not occupy your time any longer, and will now call upon Mr. J. N. Paget to read the Directors' Report.

DIRECTORS' REPORT.

Your Directors for the year 1902 beg to report as follows :

The Season. We have nothing but congratulations to the factorymen and makers and patrons on the success of the operations for the year 1902. It has been stated repeatedly that the cause of this success is on account of the very favorable climatic conditions, but we can hardly think that the greater efforts of the makers has not had somewhat to do with it also. In spite of the large make the consumption has been great and the prices high. This seems to bear out what has been repeatedly stated at these Conventions year after year, that the consumption depends much more on the quality of the goods than on any other condition. With cheese and butter always of perfect quality there is scarcely any limit to the consumption. The result of this season's favorable conditions would therefore clearly illustrate to all factorymen the importance of making the conditions in their curing rooms so that the temperature can be controlled.

Instructors. After interviews and correspondence with the Minister of Agriculture for Ontario, it was arranged that a group of factories in the County of Lambton should be set apart under the care of one Instructor to be appointed and paid by the Department of Agriculture, who should also appoint and pay for an Instructor for summer creameries. Your Directors appointed three Instructors for the balance of the cheese factories under their jurisdiction. The work of instruction was continued on the same lines as in previous years, and the Directors were able to reduce factory fees to two dollars per visit.

Improved Methods of Instruction. Through the recommendation of your Directors the Department of Agriculture employed Mr. Geo. H. Barr for the work of instruction over the group of factories in Lambton, and the experiment has proven so beneficial that the Minister of Agriculture invited the Directors of both Eastern and Western Ontario to his office in Toronto on December 31st last to discuss with him the wisdom of further extending the system of instruction upon lines similar to those adopted by the Department the past season. After full and free discussion at this meeting, we are of the opinion that the system of instruction can be further perfected by co-operation with the Department of Agriculture of Ontario, and we would recommend to the Board for 1903 that they thus enter into co-operation with this Department.

One Day Conventions of Patrons. Local Conventions for the discussion with the patrons of improvements in connection with dairying were held in the beginning of March at the following places : Waterford, Vittoria, Aylmer, Wallaceburg, Arkona, St. Mary's, Ripley, Pinkerton, Harriston and Molesworth. A meeting had been arranged for Dunnville, but it was found to conflict with a Farmers' Institute meeting and was therefore dropped. At these meetings the local men had become responsible for all the local arrangements and advertising. The meetings were very successful in every respect, and we would strongly urge that they be repeated over a wider field, unless this work can be as efficiently continued through the Farmers' Institute meetings in dairy districts.

Special Course for Instructors at Guelph. Arrangements having been made at the Dairy School, Guelph, for a short course of instruction to be given from March 28th to April 8th, specially adapted for instructors, we highly approve of the same, and would recommend to the Board of 1903 that they make it compulsory for all instructors employed by this Association to attend this course of instruction to ensure uniform methods of teaching.

Winter Dairy Exhibition. With the object of creating more interest and enthusiasm in the production of fancy dairy goods your Directors have offered more valuable prizes for the Winter Dairy Exhibition, and are pleased to report a very satisfactory number of entries. The entries of butter especially are much in excess of last year; 59 makers have made 94 entries of cheese and 65 entries of butter. In this connection we have to thank the cheese buyers operating in Western Ontario for their present of the handsome challenge cup for cheese exhibitors.

Grants to Fairs. Your Directors have again made grants to the Industrial and Western Fairs. They desire here to congratulate the Directors of the Industrial Fair Association on their magnificent dairy building which has been erected, and for the much greater prominence they are giving to dairying. We have urged the Directors of the Western Fair Association to make similar improvements in their dairy department, and it is very likely that next year will see many such improvements there.

Members' Fees. Last year the Association reverted to the dollar fee for members, for which bound copies of the Annual Reports and proceedings of the Convention would be supplied in addition to other privileges, but this was not made arbitrary. Any one could become a member at the fifty-cent rate, and receive an unbound copy of the report, but very few availed themselves of this, almost all the members paying the dollar fee.

All of which is respectfully submitted.

A. WENGER, President.

Mr. Paget : I move the adoption of the Directors' report. I might just say here with regard to the Industrial Fair, as one of your representatives of the Board of Directors of that Fair, I have heard that there are complaints among the cheese and butter makers with regard to the way their cheese and butter were placed on exhibition last September. They have placed one of the best, if not the best, building for the exhibition of dairy products in the Dominion of Canada at our disposal, and I think we should be a little easy, and not blame them too much, if the exhibits were not as well arranged, and matters were not going just as smoothly last year as they might, for the reason that the building was just completed when the exhibition opened, and everything had to be rushed. For the

butter exhibition they had to use the old cases. I think in the future you may depend upon it that your products will be exhibited in a very proper way.

Mr. Connolly seconded the resolution, which was adopted.

FINANCIAL STATEMENT.

Receipts.

To cash on hand from previous year	$1,022 89	
To membership fees	329 50	
To legislative grant	4,000 00	
To prosecutions	37 50	
To factory fees	486 00	
		$5,875 89

Expenditure.

By grants to other societies	200 00	
By prizes Winter Dairy Exhibition	305 00	
By expenses annual convention	97 11	
By expenses local conventions	193 55	
By officers' salaries	360 00	
By Directors' expenses	293 55	
By postage, telegrams, express, etc	91 40	
By printing and stationery, including binding annual reports	108 08	
By Judges' expenses	5 50	
By Instructors' salaries, including expenses: James Morrison, $937; James Bristow, $881; J. F. Millar, $668	2,486 00	
By Instructors' other expenses	48 50	
By reporting	70 00	
By office charges	116 66	
By exchange	91	
By Auditors	8 00	
By liabilities outstanding, 1901	18 00	
By travelling expenses	14 55	
		$4,416 71
Balance on hand		$1,459 18

J. A. NELLES, J. C. HEGLER, } Auditors.

AARON WENGER, President.
GEO. HATELY, Secretary-Treasurer.

Upon motion of Mr. Johnston, seconded by Mr. Ballantyne, the Secretary-Treasurer's report as read was adopted.

REPORT OF INSTRUCTOR JAMES MORRISON.

I take pleasure in presenting to you my sixth annual report. The district was the same as last year, with the exception that the County of Waterloo and the Township of East Nissouri were taken off and added to the other districts.

Applications were received for 137 visits from 38 factories. Of these I attended to 120. Mr. J. F. Millar kindly helped me out by attending to four visits for me. Seventeen of these factories were in the County of Oxford, 6 in Norfolk, 6 in Haldimand, 3 in Welland, 2 in Brant, 3 in Lincoln and 1 in Wentworth.

I commenced work for the Association on the 24th of April, and finished on the 7th of November.

Applications were received from eight factories for meetings of patrons to be held in the evening of the first visit made in the spring, but on account of political meetings being held all over the county in May several of the meetings had to be cancelled; but at the meetings held a fairly good number of the patrons attended and good discussions on the care of milk and other topics interesting to the patrons were discussed, but, as usual, the patrons most in need of brushing up are the ones who do not attend meetings of this kind.

During the season I tested 5,398 samples of milk with the Lactometer and 2,488 with the Babcock Tester. Over 2,000 of the samples tested with the Babcock Tester were composite tests at factories, where the patrons are paid by quality of milk delivered. To my mind this is the proper system to pay for milk for cheese making. Of the other milk testing done, I found a great many samples had been tampered with. A majority of the patrons sending this milk were warned personally; the others were either warned by the factory men or received notice in writing. Nine patrons were assessed, as damages, from $5 to $10 each, a total of $65. The same old story of putting in a pail of water to cool the milk can and then forgetting to pour it out again, was as prominent as ever.

One patron, who had been warned a year ago, said he had quit putting water in the milk then, but his brother had come home to work with him this season and he did not know they were to quit watering the milk and he had been doing it all season.

Another patron when called in question about his milk said his neighbors cows were poor and on poor pasture, and he thought his milk was so much better he could put in some water and still have as good milk as his neighbor. He said the temptation was too strong for him, so he had put in eight quarts of water every day from the beginning of the season.

The system of paying for milk for cheese making according to quality is not increasing as rapidly as one would expect, as there is no greater help to the maker in getting his patrons to take proper care of their milk than to have their receipts depend on the tests of the milk delivered at the factory, as it is very easy to educate them to take better care of their milk, when they see that a little extra work on their part would have given them a better test in butter fat. Many of the makers talk against the system on account of the extra work in taking and keeping the composite samples, but it is very little extra work and would well repay them in the better quality of milk they would receive.

Several of the factories which were keeping and feeding the whey at the factories are following the majority and are returning the whey to the patrons in milk cans, leaving a very small percentage of the factories now which retain the whey at the factory. The whey tanks at most of the factories are kept in a fairly good condition. On account of it being such a good season, and everything running along smoothly, there was a tendency on the part of some of the makers to become careless in regard to the necessity of keeping them as clean as they should be kept.

There has not been so much improvement of buildings this season as in the last few years, but, on account of the cool season and the cheese being shipped from the factories earlier than formerly, there was very little trouble in keeping the cheese in the curing rooms from becoming heated, the cheese going from the factories within two weeks after being made and in many cases much earlier. Early in the season the cheese were shipped from some factories almost as soon as taken from the hoops. This prac-

tice must work to the injury of the cheese when placed on the old country market.

The quality of cheese this season has been good, on account of the cool nights more than on any extra care of the patrons in caring for the milk. The milk was delivered at the factory in a much sweeter condition, giving the makers more control over the working of the curds, and doing away with a great deal of the complaints of acid cheese we heard of in former years.

The flavor of the cheese this season has been fairly good; the low temperature, almost throughout the season, was not so favorable for the development of flavors in the milk. Late in the season there were a number of complaints of apples being fed to the cows, but the price of cheese being high there was not so much trouble in disposing of such cheese as there would have been had the price been lower and cheese more plentiful.

Before concluding my report I would remind the makers that this has been an exceptionally good year for cheese making in almost every respect Next season may not be so favorable, so the better way is to be prepared next spring for adverse conditions by having everything in and around the factory in good shape before the season commences; then it will be much easier to meet the difficulties when they come, being prepared before hand.

As I have decided to resign my position as Instructor I will take this opportunity to thank the officers and members of the Association for their courtesy and kindness extended to me during the past six years.

REPORT OF INSTRUCTOR JAMES BRISTOW.

The district in which I was employed was about the same as last year with the exception of Lambton County, which was chosen for the Model District.

I received applications from twenty-six factories for ninety-one visits. Mr. Millar made two for me, and one was not made on account of not being able to go in time. I also attended three meetings of the Instructors, but I do not think the object that these meetings were intended for was attained to its full extent, although I believe it is a good plan for the Instructors to meet each month and have a talk on the different branches of their work. And I think the proposal made by the Directors of this Association to have all their Instructors take a special course in a Dairy School before commencing their work a good one, as we would have a uniform method of instruction in order to obtain the best results.

In the factories I visited I tested 4,054 samples of milk with the Lactometer, and 787 samples with the Babcock Tester. Of these I found 26 samples to be adulterated. Two patrons were assessed by the factory managers for damages, the others being allowed to go with a warning. I think that if more time were spent in trying to locate tainted milk and assisting the patron to find the cause and remedy, than in looking for adulterated milk, the time would be more profitably spent.

In five factories that I visited they were paying for the milk by the butter fat system. I believe that at the factories where they have adopted this system, they are receiving a better supply of milk, for the patrons take better care of their milk if they realize they are losing by not doing so.

The whey was returned at all the factories I visited. Most of the tanks, with the exception of those underground, were kept in fairly good shape.

There has been a little improvement made in the factories and equipments, but there are some factories still in a bad shape. The inside and

the utensils at some of the factories are not kept in as good condition as they should be. Some makers, owing to the scarcity of help, did not have time to keep things in as good shape as they would like.

Most of the factory managers have realized the importance of keeping the temperature of their curing rooms from getting too high, and have provided some means of controlling the temperature, either with ice or sub-earth ducts, though in some instances these means are not very effective. Some made no improvement along that line whatever.

The quality of the milk delivered at the factories this season was better than it was last season. I think this is largely due to the favorable conditions of the season. The frequent rains kept the pastures in good shape. This, with the cool nights, enabled the milk to be delivered at the factories, most of the time, in a clean sweet condition, but I believe that education has done something towards this, for some of the milk producers are realizing more than ever the necessity of taking proper care of their milk.

In some places where they were having had flavored milk I found the trouble was being caused by the condition of the can in which the milk was delivered.

The makers have not had as much trouble with bitter milk, or goose flavored, as it is termed, as they have had for the few previous years. With that kind of milk they always had a soft mushy curd, and the cheese was inclined to be weak in body, but this season there seemed to be no difficulty in getting the curds cooked well and be nice and firm at dipping, although in some cases the flavor would be quite distinct. It seems that no person has been able to find the cause of this flavor. Some of the makers do not clean their whey tanks, claiming that they are not bothered with that flavor when their tanks are not cleaned.

As we have seen the improvement in the quality of the milk this season by being cooled at night I would advise all makers to advocate to their patrons the cooling of their milk in the summer months.

There has been a great improvement in the quality of the cheese manufactured during the past season, due, to a great extent, to the supply of good milk and the favorable conditions of the season. The temperature of the curing rooms was more easily controlled, and some of the makers have adopted better methods of manufacturing. As the season has been very favorable and the makers have experienced little difficulty in making, I have not much to report along that line.

The practice of washing curds was not carried on to such an extent as it was last year. Although I believe in washing curds in many cases, I think that, if we can get our curds thoroughly cooked, as we were able to do last season, we do not derive much benefit from washing, especially in the months of September and October. I have tried a number of vats of fast working milk by cutting the curd fine, heating it to a high temperature, and firming it before dipping. In every case the cheese turned out all right, and, I believe, better than if the curd had been dipped out soft, and stirred so much, for the purpose of getting rid of the moisture.

In conclusion I would like to advise all cheese makers to acquaint themselves with the use of the alkaline test, which I believe to be a very important discovery in the art of cheese making. Also, I do not think that our system of instruction is the best. I believe that, if our factories were grouped into syndicates, with a competent Instructor in charge of each and who could visit each factory at least once a month, our products would be of a more uniformly high quality. This would be an ideal system, but it would involve a large expenditure.

REPORT OF INSTRUCTOR J. F. MILLAR.

I have the pleasure of presenting to you my first annual report.

The district given to me is known as the Northern District, and includes all the counties and parts of counties lying north of the main line of the Grand Trunk Railway from Toronto to Sarnia, via Guelph and Stratford.

I commenced work on the 28th of May, and finished Nov. 1. I spent 37 days giving instruction and testing milk and doing all I could to help the cheese makers to make better cheese. I also spent some time visiting patrons who were supplying bad flavored milk to see if I could find the cause of the flavor and a remedy for the same.

I tested 2,014 samples of milk with the Lactometer and 270 with the Babcock tester; also a number with the Fermentation test. The Fermentation test, is, I consider, a great help to the cheesemaker in determining bad flavored milk, and in assisting him to find out the nature of the flavor.

Out of the 2,014 samples, I found that three of the samples were watered and four skimmed. These cases were settled outside of court. The worst case of watering showed about 32 per cent. of water; and the worst case of skimming showed 48 per cent. of fat taken. The parties were assessed as damages in amounts ranging from $5 to $40 in one case. Two parties were let go with a warning not to tamper with the milk again. I found that the majority of companies did not want to have anything done to patrons who tamper with their milk. They seemed afraid of the milk being taken from the factory. In fact, I found that 75 per cent. of them did not want anything done except to write to the offenders, warning them not to do so again.

This being an excellent good season for making fancy cheese, I have not much to say about poor cheese. However, there were some made.

A number of cheese makers this year left a great quantity of whey in the curd when dipping. This I consider is a mistake. It keeps the curd a long time on the way, and they very often turn harsh after milling, about the time they should be ready to salt. It also makes a cheese that will develop a whey flavor, which is very objectionable. A number of the cheese I saw were quite open, due to salting too soon. The cheese as a rule were well finished and clean. I only visited one or two factories where the cheese had not a fine finish.

Two factories paid for the milk by the test, and it is to be regretted that all cheese companies do not pay by test, as it is certainly the proper system. Five factories had the whey fed at the factory, and the balance had the whey returned in cans. At one factory the cans were washed and steamed before going home, and I might say that I never saw finer, cleaner flavored milk delivered at a cheese factory than at this factory.

Two factories I visited were in fairly good condition; a number being good, brick buildings. Three of them had cement floors, and one had a sub-earth duct for controlling the temperature. Nearly every one of the factories had an ice-box or ice rack, though they were not needed very much this season.

The sanitary condition at many factories is very poor, there being leaking floors and leaking gutters, letting the filth down below the floors and left there to rot. In some places we find no drainage at all, and in some places where there is drainage it is completely blocked up.

There are still a number of makers who keep their vats, presses and pails well covered with paint, the natural paint, namely dirt. In some places it is not safe to touch anything unless you want to stick there. The floors also are not usually thoroughly clean.

Some makers lack order. They do not seem to have any order about them. No matter when you step in you may find everything upside down, giving the place a very bad appearance.

I also visited 36 factories by whom no applications were made and reported on same. The poorest cheese I saw this season were made in some of these places, and I could help these makers very little. As a rule they knew it all. The places were the Instructor is needed most are usually the places were he is not employed.

This being such a favorable season for cheesemaking there was not so much call for the Instructor's services. as in unfavorable seasons.

Mr. Publow : I would like to ask Mr. Millar how he found the flavor on the cheese in these factories where he found bad sanitary conditions ?

Mr. Millar : Usually the flavor was not good, but I have found factories under these conditions where the cheese made is of a very good flavor.

Mr. Derbyshire : How do you account for that ?

Mr. Millar : I suppose it is more luck than anything else.

Mr. Barr : I would like to ask Mr. Bristow if he found the makers showing much interest in the alkaline test ?

Mr. Bristow : No. They did not seem to have much use for it this summer, but I think as they get more acquainted with it they will use it.

Mr. Publow : Do you find you can make cheese more uniform by using it ?

Mr. Bristow : I think I can. You can get the amount of acid with a greater degree of certainty than you can with the hot iron test. The curds do not pull always the same on the hot iron test.

Mr. Steinhoff : Do those who use the alkaline test express themselves as satisfied with it ?

Mr. Bristow: I do not know of anyone in my section who used it all the time. A few did at the latter part of the season, and those who used it were quite satisfied.

A Member : There was one cheese maker a short distance from Stratford who used the alkaline test all summer and he said he found it satisfactory.

Mr. Steinhoff : You said some of the makers did not seem to be bothered with flavors when they did not clean out the whey tank. Did they offer an explanation as to how that came about ?

Mr. Bristow : No. They would not like to say what was the real cause of it ; but they said their experience was that whenever they cleaned out the whey tank they had trouble with bitter milk.

A Member : What flavor would they have when they didn't clean out the tank ?

Mr. Bristow : This summer the milk came in in a very good condition.

Mr. Steinhoff : The only conclusion from that would seem to be that there is a possibility that the accumulation of the acid in the tank destroys the flavor.

Mr. Bristow : That is the only way you can look at it, that it destroys this germ. I do not say that would cause it all.

Mr. Publow : Do you not think it was more due to the favorable season this year that they didn't have that flavor ?

Mr. Bristow : Certainly; but these makers claim that they don't have the same trouble every season. Last year they were doing the same thing and they claimed they were not bothered with it so much.

Mr. Publow : Did that come occasionally or every day ?

Mr. Bristow : In some factories only one day in the week, other factories would have it two or three days in the week, others for two or three

weeks straight along, and then leave and not have it for a couple of weeks and then it would come back.

Mr. Steinhoff : That seems to be a dangerous conclusion to draw, that by leaving an accumulation of whey in the tank you can improve the flavor.

Mr. Millar : We have the worst flavored milk in July, but of course this year the milk was very good.

Mr. McFarlane : Could you not have it just as good in July as in any other month ?

Mr. Millar : Yes, if you take care of it properly you can.

A Member: Supposing the patron was supplying the factory with 700 lbs. a day and the weigh can would only hold 500 lbs. In order to get a sample of that milk, the remaining 200 lbs., what proportion would be taken in order to get an accurate test of the 700 lbs ?

Mr. Millar : If you could get a thorough sample of your 700 lbs. an ounce is enough. It is just as good as 100 lbs., providing you can get a thorough sample. I would prefer to mix all the milk and then you can get a proper sample.

A Member : The question I ask is what proportion of the sample should be taken from the 200 lbs. in order to get an accurate sample ?

Mr. Millar : If you had a fair sample from the first 500 lbs. and got one from the last they would be just the same.

A Member: Not necessarily so. If you had a herd of 50 or 55 cows, each one of these cows might give you a different test.

Mr. Millar : I supposed the milk was all in one can.

Mr. Morrison : I would advise putting the morning's milk and the night's milk into the weigh can separately. If the weigh can will not hold the two together take a sample of each. I always advise makers where they are paying by the test to take a sample of every weighing. In some cases I have known them to pour in half the milk, take a sample, then put the balance in and run it down. That is not the correct way. I think the makers should take more interest in keeping and caring for their composite samples when paying for the milk by the test. The reason so few factories are paying by test is that the makers do not want it.

A Member : I should rather draw from that reply that, supposing from the first 500 lbs. the maker takes a sample of one ounce, and from the remaining 200 lbs. he takes an ounce, you would consider he had an accurate sample of the milk.

Mr. Morrison : In the 500 lbs. there would be some of the night's milk. If you put the night's and the morning's in different cans and weigh them separately there is no fairer way of doing it.

A Member : My opinion of that matter was that in order to get at that accurately, you should take a proportionate sample of the 200 lbs.

Mr. Morrison : Why put in 500 lbs. in the first weighing and 200 lbs. in the next ?

A Member : I am just asking that question for information because the usual weigh can takes 200 lbs. I believe that where you take the same sample from 500 as you do from the 200 you do not get a fair sample.

Mr. Morrison : It will not represent the whole sample, but if they divide the milk and take an ounce from each lot you will get a very close test.

Another Member : I think where you take a sample of that description when it has been raining during the night the patron who has 2 ounces to compete with the patron who has only one ounce, will not get justice.

The Chairman : Do you mean raining in the can or on the cow ?

Mr. Bristow : I do not think you can get a sample of every lot of

milk if you take from a 100 lb. lot testing 4 per cent., and from another lot testing 3 per cent. Supposing you have twice as much milk one day as another then you do not get a representative sample. I think the only way to get a representative sample is to have a brass tube that goes down to the bottom of the can. Put your tube into the can and you will get a fair sample of the milk no matter how much there may be, whether 500 lbs. or 200 lbs., you will get a representative sample.

Mr. McFarlane: Which milk tests the best, morning's or night's.

Mr. Bristow: If there is about twelve hourse between each milking I do not think there is a great deal of difference.

DAIRYING AT TORONTO INDUSTRIAL FAIR.

The following report on the dairy department of the Industrial Fair, Toronto, was submitted by Messrs. A. F. MacLaren, M.P., and Mr. J. N. Paget, representatives of this Association.

During the past year the dairy department of the Industrial Exhibition, Toronto, has been wonderfully improved; exhibits being removed from the unsuitable quarters under the grand stand to a building specially erected for this purpose.

The building proper is built of cement blocks, closely resembling natural stone and is a very attractive one. Placed as it is on the main thoroughfare from the main entrance to what seems to be one of the greatest attractions on the grounds, the grand stand, it was thronged by thousands of people. It has a large auditorium for the accommodation of people eager to observe and learn anything new in the way of butter and cheese making, and the crowds that visited the competitions in these lines gave ample testimony of the popularity of this department. The seating capacity of the auditorium was taxed to its utmost at each of these competitions and the Directors are already devising means to overcome this difficulty.

The exhibits in butter and cheese were very large, possibly that of the butter not being so numerous as has been, but the judge reports that the quality of each was far superior to that of any previous year.

The exhibits of dairy appliances were very much cramped for want of space, but they formed a very attractive feature in this department. The refrigerators we would recommend to be changed to some location other than in the passage way, and in fact, judging from the large exhibits made of dairy appliances last year, increased accommodation must be provided for them in the very near future.

The cooling of the refrigerators for the storage of butter and dressed poultry, which formed an additional attraction in this building for the first time this year, and which could doubtless be made much more so, was performed by the British Linde Refrigeration Co. of Montreal, who installed a special plant at great expense to themselves for this purpose, and gave great satisfaction to the Directorate, who were so pleased with the workings of this plant that they have purchased it since the close of the Exhibition, and in future the cooling process of these mammoth refrigerators will be performed by this plant.

The Committee in charge of this department, under the chairmanship of Mr. A. F. MacLaren, M.P., deserves great credit for the completeness of this department this year, and although the building was not finished on specified time by the contractors, yet everything was in readiness on the second day of the Exhibition for inspection by the public.

DAIRYING AT WESTERN FAIR, LONDON.

The report regarding the dairy department of the Western Fair, London, was presented by Messrs. T. B. Millar and John Isaac, representatives from this Association.

Rules Governing Competition in Dairy Department.

Any factory or manufacturer can compete in all sections, but no factory or manufacturer will be allowed to exhibit under different names in the same section.

The same cheese or butter cannot compete in any but one section, and must be from the regular productions.

To secure a uniformity of salting of the butter exhibit, it is recommended that seven-eights of an ounce of some improved dairy salt be used to each pound of butter.

No brand or other distinguishing marks will be allowed on any package in which cheese or butter is exhibited other than the entry ticket.

Any persons who do not wish to come with their exhibits may address them care of the Superintendent of Dairy Hall, Exhibition Grounds, London, who will receive same on the Grounds and have them duly placed in position.

All cheese and butter will be scored, and the score cards used shall become the property of the exhibitor, and will be forwarded to such at the close of the Exhibition.

Any exhibitor desiring to sell his cheese or butter can have it attended to by writing instructions on entry paper. Account sales will be rendered and proceeds mailed as soon as cheese or butter can be sold.

Use Entry Form No. 7.

SCORE FOR JUDGING CHEESE.		SCORE FOR JUDGING BUTTER.	
Flavor	45	Flavor	45
Texture and Body	30	Grain	25
Color	15	Color	15
Finish	10	Salting	10
		Packing	5
	100		100

Class 48—Cheese and Supplies.

Judge—I. W. Steinhoff, Stratford ; Monday, Sept. 15th, 2 p.m.

Sections 1 to 4 for Cheese not less than 40 lbs. each, made at the time specified.

Prizes in Sections—1 and 2		$20	$15	$10	$7	$3
" " 3 and 4		20	15	10	5	
Sec.						
1	Best 3 Factory Colored Cheese, made between August 1st and 16, 1902.					
2	" 3 " White " " " " " "					
3	" 4 " Colored " 2 made in June and 2 in July, 1902.					
4	" 4 " White " 2 " " 2 " 1902.					

Cheese in Sections 3 and 4 must not have been held in cold storage, and a declaration must be furnished if required.

5 Exhibit of Cheese Boxes ..... Silver Medal.

Class 49—Butter.

Judge—Prof. Dean, Guelph ; Monday, Sept. 15th, 2 p.m.

Sections 2 and 4 wrapped in parchment.

Sec.		1st.	2nd.	3rd.	4th.	5th.
1	Creamery Butter, package not less than 50 lbs	$20	$15	$10	$7	$3
2	" " 1 lb. rolls or prints, 50 lbs	20	15	10	7	3
3	Farm Dairy " package not less than 20 lbs	10	8	5	2	
4	" " 1 lb. rolls or prints 20 lbs	10	8	5	2	

CLASS 49a—BUTTER MAKING COMPETITION.

Entrance Fee 25 cents.

Sec.		1st.	2nd.	3rd.	4th.
1	Open to buttermakers, farmers' wives or daughters, or help (male or female) in any Farm Dairy in Canada.....	$30	$20	$15	$8

Rules.

1. Ripened cream will be supplied free of charge, and the butter will be the property of the Association. The amount of cream to be supplied competitors will be decided by the judges.

2. The competitors will be supplied with churns, butter workers, pails, salt, etc., and will be required each day to leave everything clean and in working order before leaving the Dairy. If any competitors wish to provide utensils for their own use they may do so.

3. Each competitor will be required to make four batches of butter, and must furnish their own printers for pound squares, set for 16½ ounces.

4. The competition will be held on Tuesday, Sept. 16th, 2 p.m. to 4 p.m.; Wednesday, Sept. 17th, 10.30 a.m. to 12.30 p.m., and from 2 p.m. to 4 p.m.; and Thursday, Sept. 18th, 2 p.m. to 4 p.m.

5. Competitors will not be allowed to work the butter with their hands.

6. Butter must be made into pound prints, and wrapped in parchment paper.

7. In awarding the prizes the following will be considered: Quality and quantity of butter; method of making; cleanliness and care of utensils in finishing each day's work.

8. Satisfactory evidence will be required from competitors that they are eligible to compete in the section in which they are entered.

9. Entries must be made with the Secretary of the Western Fair, London, on or before Sept. 11th.

N.B.—A lecturer will be in attendance during the entire time of the competition, who will explain details to the public.

PRIZE WINNERS IN THE BUTTER DEPARTMENT, WESTERN FAIR, 1902.

Section 1.

1st, William Waddell.
2nd, George Balkwill.
3rd, A. A. Bobier.
4th, H. Weston Parry.
5th, Jas. Ireland & Co.

Section 2.

1st, James Ireland & Co.
2nd, A. J. Bell.
3rd, Geo. Balkwill.
4th, William Waddell.
5th, W. H. Brubacher.

Section 3.

1st, Chas. E. Rogers.
2nd, Miss M. Hunter.
3rd, J. C. Love.
4th, Duncan Stewart.

Section 4.

1st, Miss M. Hunter.
2nd, Duncan Stewart.
3rd, Chas. E. Rogers.
4th, Mrs. E. Lawrence.

PRIZE WINNERS IN CHEESE DEPARTMENT AT THE WESTERN FAIR, 1902.

Section 1.

1st, Walter Hamilton.
2nd, John Francis.
3rd, Frank Travis.
4th, J. W. Claridge.
5th, Miss Mary Morrison.

Section 2.

1st, A. E. Gracey.
2nd, Geo. G Ludlow.
3rd, Geo. A. Boyce.
4th, R. H. Green.
5th W. P. Stacey.

Section 3.

1st, Geo. A. Boyce.
2nd, John Connolly.
3rd, S. P. Brown.
4th, J. W. Claridge.

Section 4.

1st, Miss Mary Morrison.
2nd, Geo. A. Boyce.
3rd, Robert Cuddie.
4th, J. W. Claridge.

PRIZE WINNERS IN BUTTER MAKING CCMPETITION.

1st, Miss M. L. Green.
2nd, Miss M. Hunter.
3rd, Jane Stewart.
4th, Ethel W. Hewson.

BENEFITS OF ALKALI TEST, AND OTHER NEW METHODS IN CHEESE MAKING.

By S. P. Brown, Birnam.

In my endeavors to present this subject to you at this time I shall not presume to place before your minds all of these, or to know all about those I do present. I am here only to give you, at least, a part of what I may have learned, and to improve myself, and my methods, by what you may have to suggest.

In the history of the cheese trade the watchword has ever been advance. The changing demands of the market at one end, and the changing conditions surrounding the production of the raw material at the other, have, year by year, made the question of manufacture more complex, and the necessities for changing the methods in process, in like manner, more urgent. A few years ago it was found necessary to devise some more thorough and accurate, yet practical, method of detecting foul flavors than the simple sense of smell at the receiving can. The man who inaugurated the curd test supplied this want, and placed in our hands a simple agent by means of which we may locate the source, I believe, of any undesirable flavor that is not easily noticed in the milk, but which becomes very prominent afterwards in the curds, and also in the finished cheese, and will assist us to identify their causes.

About the same time it was found necessary to improve our system of curing cheese, and a war has been waged against the old curing-room which maintained a temperature anywhere from 40 degrees to 95 degrees according to the outside atmosphere, until many of these have been improved by different methods of insulation, and by the use of different cooling agents, so that the temperature may at all times be kept below 70 degrees. The result has been that cheese placed in such rooms have had their excellence preserved rather than damaged by their sojourn there.

Still more recently the practice of coating the cheese with paraffine wax has claimed our attention.

Will this become general among the factories ?

Can it not be made practical from the manufacturer's point of view and profitable from the farmer's point of view ? It adds much to the appearance of the cheese in that it prevents any mould, and I think it, to some degree must resist heat. We cannot have our goods too attractive to the eye, or too tempting to the palate, and to my mind, this should be classified with our curing-room improvement.

The newest thing in our craft, and like the industry itself, one which I believe has come to stay, is the Acidemeter, the test with which we determine the acid development by means of alkali at any stage in the process of manufacture. The rennet test at present in use to determine the ripeness of the milk for setting, and the hot iron to know the proper condition of the curd for dipping and milling, have been invaluable agencies in the development of our cheese industry, and will not have finished their respective missions until we have all become fully acquainted with the working of the acidemeter. These, however, have some weak points for which we have seen no remedy till the inception of our new test with alkali.

For example : In the rennet test it is necessary to have the milk at 86 degrees in order to get the proper test. For dipping, the temperature needs to be that at which the curd is cooked in order to know just how the acid has developed. There are also times when, owing to the mechanical condition of the curd, the fine threads will not draw to show on the hot iron

properly, and many makers have been set at sea as to the condition of their curds, and have made serious mistakes, or have at least been caused uneasiness thereby. It is also difficult to try a curd very early, before it has been sufficiently cooked, and firm to stand the necessary pressure of the hand to expel the whey.

By the use of the alkali test, temperature cuts no figure. We can tell the exact amount of acid in a sample of milk as well at 50 degrees as at 86 degrees, and by a little practice and thorough acquaintance with the method I believe we could tell more quickly and very much more correctly the acid in milk at the receiving can than we could test a dipperful with steam, and then only know that it will or will not curdle at a certain temperature. Here, I think, is the first place that the alkali will be found in future of great value.

At setting it may be some time before it becomes universal, nevertheless, I believe a finer and therefore a more accurate test if carefully studied and thoroughly understood. Since the alkali simply neutralizes the acid in the sample tested the mechanical conditions have no effect on it, and a test may be made at the time of cutting if desired, or at any time, and the exact acidity is indicated by the amount of alkali required to produce the desired color.

At dipping it is always correct. At milling time the showing of butter never interferes with accuracy. At salting we never have had a test for acidity, and at the present time I believe it is very necessary, whatever may have been the necessities of the case in the past. Success in the cheese business depends on accuracy in every particular, and I believe that all who are willing to be carefully accurate in all other details of the business will never find the acidemeter a bore to them, but one of the most valuable auxiliaries ever introduced.

Mr. Bristow: How much acid would you develop in the milk before applying the alkaline test?

Mr. Brown: This summer we used about from .22 to .23. We only used it a short time and did not depend on it altogether. We used the rennet test mostly this summer. We only used the alkaline test about 9 weeks, but enough to satisfy me that it was very satisfactory.

Mr. Barr: With regard to this alkaline test, I would like to say I used it all season in my work. When it was introduced a year or two ago we used it ot the School. I was very anxious about it at first. It was a new thing in our Dairy School, and I did not take to it very strongly. This year, when I went out as an instructor I carried the alkaline test with me. I did not ask the cheesemakers to use it until I knew myself whether it was all right or not. Now I am convinced this test is all right. I believe it is the best thing we have ever had in the cheese business, and I would strongly urge all cheesemakers to become acquainted with it. The more you get acquainted with it the better you will like it. It will do away with a lot of the worry you have in heating the curds and in milling, and you will make a more uniform cheese. We are not so well acquainted with this test in the west as they are in the east. We Western men must wake up or those Eastern fellows will do us. I am satisfied this test is all right, and I would like to see it used generally in the factories. Next year the Instructors will have to become acquainted with that test and carry it with them; then you will be able to see whether it is right or wrong by using it in your own factories.

CHEDDAR CHEESE MAKING.

By G. G. Publow, Dairy School, Kingston.

Cheesemaking is a subject that, to deal with fully, would require more time than could be afforded at a meeting of this kind.

So in this paper I will just deal with the essential points in the manufacture. Before entering upon them, I would like to impress upon the manufacturers the importance of having a suitable and properly equipped building. That is, it should be clean, well ventilated, having good drainage, and be so constructed as to have efficient means for controlling the temperature. Then it should be equipped with suitable machinery, and have a plentiful supply of good water. As cheese is an article of food, it is essential that the place wherein it is manufactured should be as attractive as possible; in fact, it should be a centre of attraction in the community.

Ripening the Milk. The first step in the manufacture of cheese is the ripening of the milk, or its preparation for the rennet ferments. The ripening of the milk is the development of lactic acid, and as cheesemaking is a process of fermentation, or a digestive process, it is essential that the milk should contain a certain degree of acidity at the time the rennet is added. This may be determined by the use of a rennet test or alkali solution.

Setting. The quantity of rennet, and the temperature at setting are two factors which should be varied as the milk varies in richness or acidity. In the spring, when the percentage of fat is lowest, a lower setting temperature and a larger quantity of rennet should be used. As the season advances and the percentage of fat increases, the setting temperature should be raised and the quantity of rennet decreased, in order to make a firmer bodied cheese. Use nothing but good rennet, distribute it evenly through the milk, see that the milk is of a uniform temperature, and that it is maintained during the process of coagulation.

Cutting. This step in cheesemaking deserves more attention than it generally receives. As soon as the curd is firm enough to split clear across the finger, cutting should commence. The object of cutting is to facilitate the expulsion of the whey, and it is readily understood that unless the cubes are of uniform size, some will become drier than others, and therefore develop acidity more slowly. Hence it will be seen that to get uniformity an even cut is indispensable. The curd at this stage should be treated very gently or unnecessary loss is likely to occur. If the curd is from over-ripe milk it will be necessary to cut finer than it is to cut an ordinary curd. This enables the whey to escape more rapidly and make the curd firmer, checking the development of acidity.

Heating the Curd. After some of the whey has escaped from the cubes, and the outside membrane begins to toughen, further removal of the whey should be assisted by heat. The rapidity at which the curd is heated must correspond with the development of acidity. It is essential that the contraction of the curd should go on uniformly. The temperature to be used for heating depends principally on the richness of the milk, as under the same conditions a curd from rich milk will retain more moisture than a curd from poor milk. This is why a higher temperature must be used when handling rich milk, or a pasty cheese is generally the result. If, after the desired temperature has been reached it is found that acidity is developing faster than the curd is contracting, the greater portion of the whey should be removed. The curd should be kept well stirred in the remaining whey, or, if the water at the factory is good, the whey may be

run down as low as possible, and water, warm enough to keep the curd up to the cooking temperature, added. By this means a thorough cooking is assured. If there is one step in the process of more importance than another, it is the proper cooking of the curd. When the curd is properly cooked it will be firm, having an elastic feel, will fall apart readily when pressed by the hands, and should show from 1-8 to 1-4 inch of acid as measured by the hot iron; or, if acidity is being determined by the alkali test, the whey should contain about the same percentage of acidity as the milk did at the time the rennet was added. This applies when all the whey has been retained on the curd. Should part of it have been removed earlier in the process, that remaining should have from 1-100 to 2-100 more.

Dipping. This should occur in from 2 1-2 to 3 hours after the rennet has been added. Experience has shown that as the percentage of fat in the milk increases, the length of time the curd should be allowed to remain in the whey also increases. The curd should be firm enough at this stage to permit matting without excessive stirring, but good judgment should be used to retain the proper amount of moisture. The development of acidity is controlled by moisture and temperature, and these are entirely in the hands of the skilful maker. If a curd is moist and is working fast it should be kept in smaller pieces without piling until ready for milling. On the contrary, if it is firm and dry it may be piled with advantage. However, piling curds over two deep is, as a rule, not to be recommended, particularly with a curd inclined to be tender in body, as there is likely to be a serious loss of fat.

Milling. This is done to reduce the curd to pieces of convenient size to facilitate an even distribution of the salt. No fixed rule can be laid down as to the proper time to mill all curds. If a curd lacks moisture, and acidity is developing slowly, the process should be delayed, while if too much moisture is present early milling will be found beneficial. With a normal working curd, from 1 to 1 1-4 inches of acidity, as measured by the hot iron, will give good results. But under no conditions should a curd be milled until it has become flakey.

The temperature should be watched closely during the entire process, and should be about 94 degrees at this stage. If a curd is open it should be exposed well to the air by stirring, then allowed to mat for a short time and stirred and matted again, continuing this until the curd is well shrunk, has a silky texture, and a good flavor. It is essential that the curd should have a uniform acidity at time of salting, and for the determining of this I have found the alkali to be invaluable. Should a curd at time of milling contain too much acidity it can be improved by washing. This may be done in the following manner: Level up the vat, spread the curd out thin, and add water sufficiently warm to raise the curd to the cooking temperature, using sufficient to cover the curd. Stir from fifteen to twenty minutes, when the water may be removed and the curd stirred dry. A curd that has been washed will take on a silky feeling more quickly than one that has not been washed, and care should be taken not to salt until it has been sufficiently matured. I find that one per cent. of acidity, as indicated by the alkali test, is sufficient to develop in an average curd before salting.

Salting, Hooping and Pressing. Salt is added to curd to harden, give flavor and prevent putrefaction. Curds from rich milk should be salted at a higher rate, as there is more curd to be salted. The rate of salting should be regulated by the percentage of fat in the milk, and the flavor and moisture of the curd. High salting is conducive to a slow ripening cheese. It is essential that the salt be distributed uniformly through the curd, and be

thoroughly dissolved before hooping. As a rule the curd is ready for the press when it regains its soft, velvety feeling. The curd at this stage should have a temperature of about 80 degrees.

It is desirable that cheese be uniform in size as well as quality, and therefore the same quantity of curd should be placed in each hoop. Pressure should be applied gradually and continuously for about 45 minutes, when the cheese may be taken out and neatly dressed, and then submitted to a gradually increasing pressure for about an hour, when the full pressure should be applied and continued, if possible, for 24 hours. Special pains should be taken in pressing and finishing to make the cheese attractive in appearance.

CHEESEMAKING.

By G. H. Barr, Dairy School, Guelph.

Mr. Publow and I had arranged that he should take this paper on cheesemaking, and that I would not present a paper. I was at Ottawa last week, and Mr. Publow said: "Barr, I cannot come up West, we are so busy at the School," and I replied : "You have got to come, because we are looking for you up there," and we made a little agreement between ourselves as to how this question of cheesemaking should be presented. Mr. Publow can give you far more information by asking him questions than you will receive from a paper, and therefore I will not keep you very long with what I have to say. I would just like to emphasize a few things he has said in his paper. The first is—we must have our factories cleaner than they have been in the past, and we must have them more attractive. These factories should be the best buildings in the section. They should be so attractive that the patrons can point to them with real pride. If there are any weak points in our cheesemaking to-day I believe they are : The milk is not selected closely enough, and the makers are not clean enough about the work in their factories.

Mr. Publow spoke about having an even cut. I find there are too many of the knives in the factory for cutting the curd in bad shape. You will come across knives with one or two blades out. The old knives we are using cut the curd too coarse. We should have knives with 3-8 inch space instead of a 1-2 inch. I believe it will pay the patrons if you get a new set of knives.

The Development of Acid. I find the alkaline test is a real good guide. You can tell very easily where the curd is with the alkaline test. You can tell much quicker than you can with the hot iron. If it is coming slow you will take more time to cook it, and if it is coming fast you can guide it properly. You cannot take a very good test of the soft curd with the hot iron, and I think you will find the alkaline test will help you through a good deal. Mr. Publow gives about the same acidity as we do in the West. He also mentioned that when he washes the curd he levels up the vat. We would not be able to wash the curd in the same way that he speaks of in his paper, although I tried his method of washing a gassy curd at Guelph and found it worked very well.

With regard to the salting of curd, Mr. Publow found that one per cent. would be all right. I found that one per cent. would make a close cheese, and that the cheese would be all right, provided there was nothing the matter with the curd, and that everything else was right. On the other hand I found that with gassy curds we have to give them 1.2 per cent. before they would remain close. If you had a curd with a little gas in it you

would have to develop that much acid on that curd before salting, and when we get that much acid on the curd and the flavor is all right, we do not wait for anything else, we salt the curd. In using the alkaline test you can allow the curd to develop acid to a certain point, then when it shows so much acid, put the salt in and you are sure you will have a close cheese. My experience has been that there is scarcely any trouble in getting a close cheese if you use the alkaline test at this stage. I know in one case we held it an hour and a half longer than we otherwise would have done. The result is that, if you bring them up to a definite point, when you get them into the curing room they will be the same, and that is a very valuable thing. Mr. Publow can give you useful information, and if they are going to beat us in the East, as Mr. Derbyshire says, we want to know the reason why.

Mr. Publow : I am sorry that I cannot be with you to-morrow, but I did not come here to give information. I came to see what I could learn from you in the West. We have not got swelled heads in the East at all. We realize we have a great deal to learn, and I think it is by means of this kind that we do learn. I am only too willing to give you anything that will be of benefit to you. Regarding this alkaline test we as Canadians did not bring it about. Dr. Lloyd, a chemist in the old country, worked for eight years to bring about these changes. We determined by the sense of smell and touch the character of the curd, while he tried to get something that would be more accurate. The first two years I used it in the schools, and I did not think very much of it, because I did not understand it very well. There is something in the alkaline, and something in the indicator. You must have the solution uniform in strength. I would recommend that you buy from a sure source, such as the Ontario Agricultural College, where it is made of a uniform standard. If the alkaline is weak, I use a little more; if it is strong I use a little less. We find when we set the milk at two-tenths of one per cent. the first whey that comes on the curd has nearly a half less. We find that the curd when it is firm and showing forty on the hot iron test, will have about the same acidity as it had when the milk was set. You have to use judgment in using the alkaline test, and your common sense. I find that if you cut the curd very fine you will expel the whey much more quickly, and will not have much more in the curd, and it is not a true guide in that condition, nor if you cut the curd coarse and cook fast and keep the moisture in the curd. You must cook according to the fermentation, and then you will find the alkaline test to be invaluable. I have found it so, and the more I use it the more convinced am I that every maker should understand it and use it. In the twenty-five factories I had charge of this year I succeeded in getting fourteen to use the alkaline test, and, strange to say, I found that new, inexperienced makers using the alkaline test could beat the old makers who had long experience.

Mr. Barr : I would like to ask Mr. Publow if he has had any experience in salting curd that had too much acid, and of soft curd that was not properly cooked ? Where the cheese would probably show a little open ? The cheese may have had enough acid and yet the cheese would be open and the curd not properly cooked.

Mr. Publow : Yes, especially if there is a high temperature. Cheese of that kind is always a little acid in texture.

Mr. Barr : To what do you attribute that ?

Mr. Publow : Not having the curd cooked enough.

Mr. Barr : These cheese might show close enough in a week, but not after two weeks.

Mr. Millar : If he milled his curd when it showed a certain percentage of acid, were the conditions always right when it showed that percentage of acid by the alkaline test ?

Mr. Publow : Yes, in a normal working curd they were.

Mr. Millar : As a rule you will find other conditions right ?

Mr. Publow : Yes.

Mr. Millar : This test has not been used in the West. If it is a good thing we want to know more about it.

Mr. Publow : With regard to that soft curd, if you have the acidity and then find that there is too much moisture you should put on some more salt. If you do not want the cheese too open when put in the curing room the salt will harden the curd. That kind of cheese will never be fine in texture.

Mr. Millar : Would we gain the same points by maturing a little further before salting ?

Mr. Publow: You would get more moisture out, but you would make the cheese more tallowy in texture.

Mr. Steinhoff : One of our greatest troubles is the flavor. What is your treatment of the curds to get rid of bad flavor ?

Mr. Publow : The very best treatment is to have the right flavor in the milk. If the flavor of the milk is not clean, I believe it is practically impossible to have the flavor of the cheese clean. You can improve it by putting some lactic acid fermentation into the curd after milling, before salting. Air the curd well. That is the only means we have of improving the flavor.

Mr. Steinhoff : You never wash the curd ?

Mr. Publow : No. I do not find there is much to be gained by washing it. If you get a bad flavored curd, and you have good water, I would recommend you to wash it for the sake of flavor, to develop more acidity on the curd. Let the milk get good and ripe, and then wash after milling. I find I never got a perfect flavored cheese even in that way. It would be good for a short time, but it would go off eventually. If you have a tainted curd and you want to wash it, do not attempt to wash for flavor, unless you have provided for acidity in the first place, because you may have an open cheese. Have good acidity when the whey is taken off and the curd matured, then wash the curd at 100 degrees and air the curd after washing.

Mr. Steinhoff: Have you had a fruity flavor, much like decayed apples?

Mr. Publow : We did not have any of it this year, but we have had a lot of experience of fruity flavor and have tried to find out the cause. At a factory where they were troubled with the fruity flavor, I made a fermentation test of all the milk, and made curd from it, and found that some particular patron's milk developed it. I went to his place and found he either had a rusty can in bad condition with open seams, or that he had the whey barrels or pig trough in close vicinity to the can. I found some of these conditions at every place where they had those fruity flavors.

Mr. Steinhoff : Did you ever trace it to the cows eating decayed apples in the orchard ?

Mr. Publow : No, I did not. I was sent to two factories last year where they were troubled with fruity flavors. One of the makers is an old and experienced maker. He was using the whey starter, and had a boy who had learnt the business from him, and he was making cheese 30 miles from his factory. They were both using a whey starter. I took a fermentation test of the milk, and I found nothing wrong with it, and I asked if he had a starter, and he said he had. He had a milk can full of whey. The whey did not smell fruity. We did not use it that day, and did not

have any fruity flavor on the curd. Every cheese in the factory was fruity, and the same in the other factory, thirty miles away, and both were using a whey starter just the same. I took a sample of the whey from these factories, and a sample of the milk, and a sample of the curd after putting the starter in, and a sample of every cheese in the factory, and took them to Dr. Connell at Kingston, who got from them the same germ that was in the curds and in the whey. He took a sample of them and got the fruity flavor, and I am inclined to think it was from the whey, or from the fermentation that takes place in the whey. I am not positive about that, but we found these conditions, but when we got them to clean the cans or get new cans the trouble ceased right off.

Mr. Derbyshire: It is just the dirt in the milk, and in the factory.

Mr. Publow: I thought so.

Mr. Steinhoff: Has your work this past season been more satisfactory to you, or, in other words, do you think you are able to accomplish more for your twenty-five factories this last year than you could for fifty or one hundred that you visited formerly? and do you think the results are more beneficial to the factories?

Mr. Publow: I would decidedly say, as far as I am concerned, I never had as good satisfaction, and I never felt I did as much good, as I did this last year. We selected factories so as to get a fair average condition of the factories in the east. Some of them were the best factories where they make fine cheese, without any person being there to instruct them, but I am prepared to say that I believe it is the true system of instruction and that you will get more uniform results. You can see whether you are giving proper instruction or not, and it stimulates the maker when he expects you to come around again in two or three weeks. If he is a little untidy, and has been reported, he will try to do better. We have found our very best men receiving more benefit this year than ever before. We get better milk by being able to reach the farmers. We can show them the necessity of having things clean. I believe I accomplished more in this than in any other way. I invited them to come in and see the style of cheese being put up for them. We reported to the Department at Toronto every week as to the condition of the factory, the cheese, and the milk. The makers have the privilege of looking at this report. Some of them asked what was going to be done with this report, I said: "They may be printed," and they said: "Are you going to print that report?" and I replied "Yes, and I have to report these things just as I find them, and if you do not want that in the report you had better have it different the next time." I found that an incentive to them to improve the condition of affairs before I returned. We sent in a general report as to the first visit to the factory in the spring, also one in August and one in September. These reports will be printed, showing the name of the factory, amount of milk, condition of milk, condition of the factory, condition of the equipment, and the score of the cheese, the flavor, the texture, make, finish, and so on. Also the number of patrons sending in milk to the factory and the number of people who attended the meeting and the amount of money that was spent in the way of improving the factory.

The cheese from those twenty-five factories were never so uniform. Towards the last of the season I went to Montreal, had cheese from all the factories put together, and you could hardly tell one cheese from another as far as quality was concerned. As to the cheese that were sold in Perth one man judged them, who said they appeared as though one man had made them all, yet they were from eleven different factories.

A Member : When using the alkaline test in salting, was the curd always in a proper state for putting into the press when the acidity showed just the per cent. you say ?

Mr. Publow : Yes. I always salted when I got that amount of acidity. I found the acidity in the curd to be a true indication of the ripeness of the curd.

A Member : The boys sometimes think it is right to salt before it is ready.

Mr. Publow: Yes. I have heard them say, "I have salted that curd now." We have educated ourselves to the sense of taste, touch and smell; but no matter how expert we have been it is hard for us to determine by the sense of touch when the curd has been broken down enough. You know the amount of moisture and temperature affects the curd that is a little stiff and a little bit dry. You may have the acidity, but if you have it over matured you have a tallowy texture. Having used the alkaline test for five years, I can say that you are always safe to salt the curd when it has got the proper amount of acidity.

Mr. Brown : In the development of the extra amount of acid for flavoring milk what degree of acid would you increase ?

Mr. Publow : About 2-100 of one, making it work about half an hour quicker. I find in using this alkaline test that after you cut your curd you will find it will give about 1-100 every 15 minutes. You must keep it stirring or let it lie and rest. Makers should pay more attention to the length of time they cook curd. If it is shrinking slowly, it must be cooked slowly, if it is shrinking fast, it must be cooked fast.

A Member : Would you make any difference in the acidity of the milk?

Mr. Publow : No, sir, I would not.

A Member : How do you get the bad flavors ?

Mr. Publow: We get some bad flavors by tasting, and some by smelling.

Mr. Steinhoff: Do you think the conditions of the inside of the cheese always harmonize with the surroundings or conditions that you find in the factory ? Sometimes it is said that we buyers are prejudiced by what we see in the factory. Is it your experience that you can have slouchiness and uncleanness in the factory and surroundings and have a finely made cheese?

Mr. Publow : I usually find that if you keep the cheese long enough when made in a dirty factory they will go off in flavor. I am strong on that point. I did some work along that line. This year a maker said to me: "There is no use in my cleaning up," and his Directors said "These cheese are selling all right." I said, "I know they are going all right, but they have been faulted from the old country. Keep this cheese for a month that you are now shipping every seven days." And they kept five of the cheese for a month, when four of them were bad flavored; three of them were stinkers, though the buyer had passed them as good when they were seven or eight days old. So I say you cannot have a fine flavored cheese made in a dirty factory.

Mr. McFarlane : Have you made any cheese right from the cow's milk?

Mr. Publow : We have made it sometimes on Saturday night.

Mr. McFarlane : How does that keep ?

Mr. Publow : They will not keep so long. The flavor is not so good, and the cheese is apt to form holes. It makes a very sweet, high-colored cheese.

Mr. Millar : How are we going to arrive at this uniformly high quality of cheese ?

Mr. Publow : That is what we are after. We are looking for information along that line, and want the co-operation of every person concerned in the business. First, we want good milk, then good instructors to instruct the makers. If we will do our very best during this year, I think you will see that we will get pretty near uniformity.

Mr. Barr : I would like Mr. Publow to tell us something about the way he has been able to get the factorymen to clean up the factories.

Mr. Publow : I do not think it is anything I have done, but the makers saw it was necessary, and they were so intelligent they did it. We had five factories in the combination this fall, that it would have been a pleasure for any person to go through. They are model factories. We thought to make all the twenty-five into model factories, but we did not. They are all wooden buildings. I think brick would be better. Wooden buildings should be nicely painted white with green trimmings. These five factories are painted inside and out. The floors of the curing rooms and the shelves are tinned, and the surroundings are clean and well drained, and the tanks are arranged so that they can be cleaned every day. The fronts of the factories are nice and grassy, and you can walk around them and keep your feet clean, and get no bad smells. They have screen doors and windows, and in three of these five they had ice boxes put in, while one of them had the cheese cured in cold storage. One of these factories spent $200 last year in making the appearance of the place more attractive, and there was nearly $5,000 spent in seventeen or eighteen of the factories in improving them last year, and a great deal more will be done this year.

Mr. Steinhoff: How do you get the people to do that ?

Mr. Publow : By showing them, as well as I knew how, where the defects were, and when they saw them I had no difficulty in getting them to do what I asked them to. I think if we show the farmer the necessity of having the milk in proper condition he will see that it is so, and if you follow their milk to the factory, and see that the place it is manufactured in is clean, you will have good cheese.

A Member : Are these private factories ?

Mr. Publow : Half of them private owners and the others stock companies. I find the private owners more willing to fix up than the others, and they had not any interest in the matter at all. I always show to the farmers that they cannot do better than to pay a good price for doing the work, and then see that it is well done.

A Member : Have you ever had an experience with curds not cooking in the whey by the time they should, that when you got them cooked they were soft and mushy ?

Mr. Publow : I have never had any trouble in that way. It has usually come by cooking fast, or too soon. I find that the acid has more to do with it than anything. It might require a little starter, or the use of more rennet.

A Member : Would you advise cooking up to 102 degrees or 103 degrees for that trouble ?

Mr. Publow : Yes, if the curd does not firm sufficiently at a lower temperature. I am not in favor of cooking at a high temperature. I like to sell all the water in the cheese that I can at 12c per pound and have good cheese. I like to have high temperature to get the curd firm enough. If it is lively after being in for three hours at 98, go to 100, and if that does not go high enough to bring about what you desire, increase it.

A Member : What did the milk test in Eastern Ontario in June ? Do

you use the same degree of acid the whole season through in these alkaline tests ?

Mr. Publow : Yes, you are quite safe in doing so. Of course, there are times when we get it over ripe, but I would like to have it the same all the year round. I find with the Standard Alkaline Solution about 2-10 of one per cent. is right.

Mr. Barr : Do you develop just as much at salting ?

Mr. Publow : Yes, just the same in the spring and summer and in the fall. If you want the same character in the cheese when it is ripe, you want the same acid after the curd is salted. When you do not do that, you will have your spring cheese opening up in the warm weather.

INJURIOUS FLAVORS IN CHEESE.

By F. C. Harrison, Bacteriologist, O.A.C., Guelph.

Introductory. During the past season, Mr. Woodward of the Dominion Dairying Service, very kindly sent me samples of cheese showing very undesirable flavors. These samples were all collected at the port of Montreal, and represented export cheese upon which Mr. Woodward had been asked to pronounce judgment as to whether they were the finest or not. The experimental work we have done this year has been, as a rule, upon the flavors, or the so-called fruit flavors. We have conducted a number of other experiments which I have not time to touch upon in this paper.

How Samples Were Obtained. The samples of cheese were mailed to me in sterilized glass tubes, packed in wooden cases so that no contamination could occur during transit. With each sample, Mr. Woodward sent full particulars, which included the name of the factory, a description of the flavor, and notes concerning the length of time the flavor had been present in the factory.

Examination of the Samples. On arrival at my laboratory the samples were examined, the flavor compared with the description given by Mr. Woodward, and a bacteriological analysis made. The micro-organisms present were isolated and grown in pure cultures, and a flask of sterilized milk was inoculated with each species separated, and kept at a temperature of between 75 and 80 degrees. After two or three days the flasks were examined, the appearance, odor and taste of the milk noted, and small cheese were made at the Dairy Department by Mr. Stratton, the College Cheesemaker, from milk to which was added 1 to 2 per cent. of a pure culture of the organism which was thought to procure the undesirable flavor. Full notes were taken on the acidity and flavor of the curd during making, and some weeks after the cheese was scored, and one, or several, analysis of the number and kind of bacteria present was made, in order to ascertain the number of injurious micro-organisms present, and to find out the ratio of the injurious organisms to the lactic acid or beneficial bacteria.

Description of Various Injurious Flavors. The samples received showed the following flavors :

1. Off-flavor. Defined by Mr. Woodward as a "characteristic flavor, which indicates early deterioration in cheese, and which usually shows itself when the cheese begins to break down." A very bad off-flavor is termed "stinker."

2. Fruity Flavor. The term "fruity," according to Mr. Ruddick, has been applied to a peculiar sweet flavor of very pronounced character. It

has a strong resemblance to the odor of fermented fruit, certain kinds of wine, etc. Mr. Woodward in his letter accompanying samples of cheese affected with this flavor thus characterizes them: "This particular sample has a very strong flavor of strawberries." "The flavor in these two samples closely resembles strawberries!" "This sample is very fruity, and resembles fermented beet."

3. Rancid Flavor. Defined by Mr. Woodward as "a flavor which resembles rancid butter, and which has been quite common during this season and last."

4. Miscellaneous Flavors, such as poor flavor, a mixture of flavors, etc.

I cannot, at this meeting, enter into the details of all our experiments with these different flavors, but shall confine my remarks to the "fruity" and "rancid" flavors.

Fruity Flavor. "The Fruity Flavor" has been known for several seasons. In May, 1901, Mr. Ruddick, Chief of the Dairy Division of the Dominion Department of Agriculture, issued a leaflet describing the term "fruity," and suggesting that the specific cause, although not definitely known, was of fermentation or bacterial origin, and not due to the effect of any kind of food as was once supposed.

An allied affection, known as "sweet flavor," has been known in the State of New York for some years, and has been investigated to some extent by the New York Experiment Station. Harding, Rodgers and Smith, three investigators at this station, report the trouble as widespread and of long standing in the State, where it produces annually a large economic loss. Cheese with this flavor are manufactured not only in badly managed factories, but also in some of the cleanest and best managed factories in the State.

Geographical Distribution. During the past season I have examined fruity flavored cheese from eleven different factories located in the following districts of Ontario and Quebec: Addington County, Peterboro' County, Lennox County, Oxford County, Frontenac County, Middlesex County and Wellington, showing that this peculiar flavor is widely distributed.

During the season of 1901 I received six or seven different samples from various factories in this Province; and if the past season had been warmer, I am sure there would have been more complaints about this flavor.

The Cause of Fruity Flavor. In every sample of fruity flavored cheese examined in my laboratory yeasts were found in large numbers. On several occasions I found as many as eighty-five millions in one gramme (1-28 oz.) of cheese. From the eleven different samples analysed I have isolated a large number of different yeasts, some of which are without any injurious effect, whilst others produce characteristic fruity flavors in cheese.

As an example of a successful experiment with a yeast producing a fruity flavor, let me instance one of our practical experiments. On Nov. 7th two pounds of pure culture of a yeast producing a fruity flavor in milk and half a pound of a culture of the lactic acid bacillus was added to 115 pounds of good milk, and the vat was set at 86 degrees Fahrenheit with rennet at the rate of 3 1-2 ounces per 1,000 pounds milk. The acidity of the whey at dipping was .20, and at salting 1.15. Five and a half hours elapsed between dipping and salting. Salt was added at the usual rate, viz., 2 3-4 ounces per 100 pounds curd. The yeast culture had a decided fruity flavor and the curd kept this flavor all through the work. At milling time, it was quite gassy, as this yeast is able to ferment the milk sugar, producing alcohol and carbonic acid gas. In spite of the gassy nature of the curd, the

cheese was close and the texture fair. The cheese was scored by Mr. Barr when eight weeks old, as follows :

		Max.
Flavor	29	40
Closeness	13	15
Even color	14	15
Texture	17	20

Remarks: Fruity flavor quite pronounced.

The bacteriological analyses showed that yeasts were present in large numbers (23,000,000) per gram, and were of the same variety as that originally introduced in the culture.

I might add that good cheese is being constantly made in exactly the same vat, in the same room, and with the same utensils as this fruity flavored cheese, because the milk has not been inoculated with the yeast which produces this fruity flavor.

I need not repeat our other experiments along these lines, as they are quite similar to the one I have briefly outlined. You may judge, from the samples before you, the flavor of two of these experimental cheese made from milk to which was added cultures of yeast isolated from fruity flavored cheese.

Having demonstrated the cause of fruity flavored cheese, and having shown that such cheese can be experimentally produced in a district and in a factory where it has never been naturally met with, let me proceed to say a few words regarding the

Natural Methods of Infection of Milk with "Fruity" Yeasts and Conditions Favoring the Spread of This Injurious Flavor : In nature, yeasts are found upon the skin and surface of all fruits, upon leaves, twigs and branches of trees. In the winter they probably live, or remain, in a dormant condition in the soil, or upon the branches of trees, etc. It has been proven that yeasts sown in the soil in September were alive in the earth for more than three years. In the summer these yeasts are again carried into the air by the united action of insects and wind, and through these two means of transport they are further distributed from fruit to fruit or tree to tree. Whether this is their only mode of circulation in nature has not yet been ascertained.

Knowing these facts, it is very easy to understand how yeasts are able to get into milk. A short drive along any milk route will show milk cans standing under trees, or by the roadside, there they easily become infected with yeasts or bacteria. Any yeast carried by air current or insects into a can, and brought into contact with the milk, will at once commence to grow with great rapidity, for they find in milk a perfect food. Yeasts are very fond of sugar, and some of them are able to convert the milk-sugar into alcohol, just as the yeasts which are used for making beer convert the malt-sugar into alcohol. Besides producing alcohol and gas, they may produce other flavors, such as bitter flavor, fruity flavor, etc., different species generally producing different effects.

Conditions Favoring the Spread of the Fruity Flavor. These injurious yeasts, having once gained access to the milk, are carried back to the farm in the whey, and thus become a permanent source of infection, for it is almost impossible to kill these organisms by the methods of can washing generally practiced on the farms in this Province.

Further, whey is spilt in various places, troughs become contaminated with the micro-organism in the whey, and thus the soil and surroundings become seeded with these undesirable forms of life, making re-infection of the milk more easy.

Warm weather also favors the spread of these organisms, as they grow more rapidly at higher temperatures, and their evil effects are more readily noticed when larger numbers are present—the strength of the fruity flavor being in proportion to the number of yeast-cells present in the milk.

Rancid Flavor. The first sample of rancid flavored cheese was sent in by Mr. Woodward at the end of July. The flavor in the samples sent resembled rancid butter, and this flavor has been quite common during this season and last.

We succeeded in isolating a microbe which produced the flavor, and also made cheese in the College Dairy Department which had a decided rancid taste. Such cheese have no "body" and are apt to become bitter as curing progresses.

The organism producing this trouble is a bacillus which has the power of making the casein or curd soluble and of splitting up the butter fat into undesirable and evil smelling compounds. Cheese containing this microbe in any considerable numbers breaks down very quickly, giving the same effect as if twice or three times the amount (normal) of rennet had been used; but in addition to its action of the casein, it acts on the fat, splitting it up, and producing other substances which announce their presence to our senses by their rancid smell.

In normal cheese, organisms of this class are altogether absent, or are present in such small quantities or numbers that they have no effect, upon the ripening process. They are usually rather susceptible to the acid produced by the lactic acid bacteria; in other words, the acid acts as an antiseptic and prevents their growth; consequently, the ill effects of their presence were very manifest in both the experimental cheese, and the cheese from which the sample was taken. Further, this class of bacteria secretes products similar in the nature to rennet, upon which neither acid nor any other antiseptic has any appreciable effect, and thus the action of these bodies, technically called enzymes, is continuous, and may actively go on or be in operation long after the death of the germs which produced this rennet-like compound, or enzyme.

Occasions sometimes arise in which this class of organism gains the upper-hand of the beneficial bacteria (*B. acidi lactici*) and then trouble is sure to follow. These undesirable bacteria are found in soil, dirt, manure, etc., and probably fall into the milk from the dirty flanks and udder of the cow, being dislodged from the animal's sides by the movements of milking, or they are present in dirt left in the cans. I have frequently seen road dust and dirt in appreciable quantities in washed cans, which have been left by the roadside in the intervals between emptying and re-filling. From such dirt, it is easy to isolate these undesirable bacteria, which produce the above-mentioned conditions in cheese.

Remedial Measures. In order to have any success in controlling any injurious flavors in milk or cheese, there must be hearty co-operation between the cheese maker and the patron. Each must do his part, as any omission, on either side, is bound to be followed by bad effects. There is a disposition in many places to blame the cheese maker for all defects in his product, and the maker generally responds with a "tu quoque" argument. I do not think that any maker should be held responsible for bad-flavored cheese, if the ordinary pasteurized whey is carried back in milk cans from the factory to the farm. Such a practice cannot be too strongly condemned,—as the carelessness of a single patron may be the means of tainting the cans of every farmer, who sends milk to the factory, causing loss of money, and loss of reputation to the factory, and untold annoyance

to every patron. So long as this procedure is carried out, so long also will there be trouble and serious loss from undesirable taint in milk. Let the whey be taken back in a can kept for the purpose; or if that cannot be done, let all the whey be pasteurized at the factory by using the exhaust steam of the engine.

Many farmers keep their cans, both before and after filling, in very unsuitable places, where there is constant danger of infection from harmful bacteria. I have already pointed out the danger of keeping cans under trees.—factories troubled with fruity flavors should strongly condemn this practice, as the milk is more liable to be infected with the yeasts which produce "fruitiness" in such situations.

Proper cooling has a beneficial effect, as it lessens the growth of the bacteria or yeasts, and consequently, injurious flavors will be less pronounced; for, as I have already remarked, the amount of flavor, whether "fruity", "rancid", or any other, will be in proportion to the number of injurious bacteria or yeasts present.

Special attention should be given to the cleaning of the vats and curd-racks in the factory, and fly screens should be provided for windows and doors, as we have known of several cases in which infection has been carried by flies and insects.

In certain cases, some of these injurious flavors may be overcome by using a pure culture of a lactic acid bacillus from a well recognized source. In order, however, to get the maximum benefit from the use of such cultures or "starters", the milk must not be over-ripe, which again emphasizes the benefits to be derived from proper cooling and aeration, as it enables the cheese maker to control his product.

One of the greatest principles in the dairy business is cleanliness, and these investigations emphasize the necessity of this advisable virtue. Nothing is plainer in the dairy business, or in sanitary science, as in human experience, that "Cleanliness is next to Godliness." Dirt is dangerous, because it is of "the earth earthy," and because it is too often excrement. The love of cleanliness or the abhorrence of dirt, which is gradually becoming established in all highly civilized people, is doubtless a resultant of the dearly bought experience of the race, which has shown that dirt is dangerous, and therefore to be dreaded. Cleanness, or the absence of dirt, is not merely an aesthetic adornment,—though doubtless an acquired taste; but is, above all things, a safeguard, the importance of which has been learned by hard experience. In other words, to be clean is, in a measure, to be safe from infection, and cleanness applies not only to the person, but extends also to personal evironment, and especially to the food supply, milk supply, and water supply.

There are two cheese here, one of which shows fruity flavors more distinctly than the other, I would like you to see these cheese and try them for yourselves. There are a good many varieties of these flavors, but you will get a yeasty and peculiar flavor from these cheese.

Mr. Paget : We have listened with great profit to the fine address Prof. Harrison has given us. He has been dealing with the subject that is of vital importance to every cheese maker in this association. There is no part in the manufacturing of cheese or butter that we want to learn more about than this particular one. He has pointed out some of the bad flavors that are met with in cheese making. The meeting is now open for discussion.

Mr. Steinhoff : Do I understand you to say there is no benefit to be derived from washing curds in order to get out these flavors, and that there is danger of doing harm ?

Prof. Harrison : I said that washing the curds was injurious for this reason: the acid serves a very beneficial purpose, that of the development of the acid through the growth of the lactic acid bacteria in the milk, producing sufficient acid to hinder the growth of the injurious organism. If a certain percentage of that is washed out it will have a bad effect. If you think these injurious organisms are present, then I would not wash. If you do wash the acid out, or the sugar out, which amounts to the same thing because the acid is made from the sugar, you incur greater liability of injurious taints produced by certain classes of bacteria. If you take one of these samples of cheese in your finger you notice the sticky, slimy feel. That germ would grow far more rapidly in a cheese if a normal quantity of acid was not present.

Mr. Steinhoff: The only remedy would be to have proper acid ferment with bacteria in sufficient number to overcome the other.

Prof. Harrison : Yes, they may be overcome to some extent by the development of acid, but with these yeasts you cannot do that, because we find yeasts are able to grow quite well in the acid that is present even at the greatest stage of the cheese making process.

Mr. Steinhoff : The fruity flavor comes from the yeast ?

Prof. Harrison : Yes, so does the bitter flavor.

Mr. Wieland : In examining cheese we very frequently come across fruity flavors. Some call it sweet. I think fruity is a much better term. In examining cheese in Montreal I have found pineapple, and strawberry, and a sort of sweet cider flavors. The fruity flavors are objected to very much on the other side, and militate greatly against the sale of the cheese. An off flavored cheese will sometimes sell because the buyer thinks it is an aged cheese, but we want you to make clean good cheese. From a mercantile standpoint fruity flavors are the most dangerous we buyers have to fight against. I find we get more fruity flavored cheese from Quebec and New York State. Many of our buyers can tell a cheese that has a fruity flavor by the way the iron will go into the cheese. If proper care is taken of the utensils in which you get the milk I do not think you will have much trouble with fruity flavors.

Prof. Harrison : Although I quite agree with the last speaker, yet I can quite readily conceive of circumstances where we might have fruity flavors even if everything is clean. As I said before we have traced these yeasts to fruit trees and maple trees. We have found that where the farmer kept his milk cans was under a certain tree in the orchard. The different flavors are produced by different spores. Some produce one kind of flavor and some another. In the wine districts men are engaged to do nothing else but select yeast, and they have made various kinds of champagne even from apples. This is done by selecting the yeast to produce the proper flavors.

A Member : You would not say that all these flavors come from fruit trees ?

Prof. Harrison : Not necessary from fruit trees, but from trees of some kind. The bitter flavors were traced to the maple tree. The ordinary home of the yeast plant in summer seasons is on trees of some kind.

Mr Paget : Mr. Wieland's testimony verifies and substantiates the statement made by Mr. Publow and Prof. Harrison with regard to this flavor and emphasizes the necessity of preventing it.

Mr. Steinhoff : How do you account for the flavor being in the factory one day and then disappearing for several days, and then appearing again.

Prof. Harrison : The probability is that you have one day a circum-

stance which may not happen another day, such for instance as prevalence of winds, and so on.

Mr. Publow : We recommend, in the east, to prevent this fruity flavor, cooling the milk and covering the can.

Prof. Harrison : Very excellent advice. Covering the can prevents the yeasts dropping in, and cooling prevents their growth.

A Member : To what temperature would you advise cooling the milk ?

Prof. Harrison : As low as you can get it with the cooling methods at your disposal. There has been some discussion amongst cheese makers with regard to cooling milk, some stating that if you cool it too much it would be unsuitable for cheese making, but the experiments we made at Guelph have not borne that out. We find by cooling it down to 60 degrees and then using a good starter the best results have been obtained.

A Member : Some have said if you cool at all you should go below 50 degrees.

Prof. Harrison : It is possible to get anywhere between 50 and 60 degrees, and that would cause a considerable decrease in the growth of these bacteria, both good and bad, and the good could be created by the use of the lactic acid starter.

Mr. McFarlane : What season of the year do you get the most fruity flavor ?

Prof. Harrison : June, July, and August.

Mr. Publow : Supposing the farmers were to ripen the milk at 65 degrees, and keep it in clean vessels ?

Prof. Harrison : Of course it is largely a matter of training as to whether the cheese makers know how to use the starters. There is this objection to letting every farmer make his own starter, there are injurious bacteria as well as beneficial bacteria. There are about 40 species.

CIVIC WELCOME.

During the evening the Opera House Orchestra and the Brantford City Male Quartette furnished the audience with a number of selections which were appreciated by the members.

Mr. Halloran, the Mayor of Brantford, was introduced, and said :— I am very much pleased to find that the first public function I am called upon to perform since my election is to welcome you here to the city of Brantford on behalf of the citizens, and, as I welcome you this evening, I hope your deliberations will be very profitable to yourselves, and that the memory of your visit will be long with you. I am well aware that this is not the first time the Western Dairymen's Association has met in Brantford. I am pleased to notice that your Association has continued to flourish, and that your interests and influence for good throughout the Province are growing. You, on your part, will notice that we, in Brantford, are not standing still. We have felt the effect of the wave that is passing over the country in these prosperous times, and since your last visit here you will find we have a number of new manufacturers located here, and our older factories have been obliged to extend in order to keep up with the expanding trade. While the Mayor of a manufacturing city need not be expected to boast as a dairyman, still, he must not remain in ignorance of the industry, and all classes must rejoice in the advancement of the dairymen of this Province, and the great strides you are making in the old world, and we trust you may have profit and promise before you.

Now, gentlemen, the latch-key is on the outside, and on behalf of the citizens of Brantford I invite you to enter, and I know our manufacturers will welcome you, and that they will extend the kindly hand to you when you call. The winter is not the best time to see Brantford, nor to see the educational and historic institutions we have in our midst. Here we have the old Mohawk Church, the oldest house of worship in Ontario, also the Institute for the Blind, which is doing good work for the afflicted, and we have a number of schools second to none in the Province of Ontario.

The President: I gratefully accept your kind invitation, and we are going to pull that latch-string just as often as the opportunity presents. We thank you most heartily for your kind welcome. We recognize, as you have stated to us, the importance of your city, and although we cannot see the beauties of it on account of the stormy weather, I must tell you that we do admire the people whom we meet with. We thank you most heartily for your kind welcome, and wish the city of Brantford every prosperity.

ADDRESS.

By D. Derbyshire, President Dairymen's Association of Eastern Ontario, Brockville.

I assure you that it must be a great source of gratification to the dairymen to have the pleasure of meeting in such an important city as Brantford, the third largest manufacturing city in the Dominion, and that is a good deal to say. They call it the Telephone City, because the telephone was first brought to the light of day in this city. We are delighted that you have been so prosperous in the past, and we are delighted with the more than kind welcome we have received at the hand of His Worship the Mayor. The dairymen are here to talk over their particular business and to try and formulate plans for the future. We feel proud of the record we have made in the past. We have made the name of Canada famous throughout the world. The dairymen built the Agricultural College by their influence and co-operation. They pressed it upon the members of Parliament until the Agricultural College was built at Guelph, and until the Dairy Schools, three in number, were built in this Province; and these three Schools are carrying on magnificent work, and we are delighted to know that to-day they are full of bright young intelligent men who are getting practical training in the work of making fancy butter and cheese. We have been urging the Government from time to time to do something in relation to our work, and never before in the history of our country have both Governments stood to the front as they do at the present time.

You are aware that the Minister of Agriculture for the Dominion has given us refrigerator cars, first for our butter, and then we thought we ought to have it for our cheese as well, and during this last year, 1902, we have had the pleasure of having refrigerator cars for our cheese as well as for our butter. We found there was a missing link in connection with the handling of our goods and delivering it to the mother country in that perfect condition that we so much desire, and the Minister of Agriculture supplied this link by giving us cold compartments upon ships carrying these goods from Montreal to the Old Country, and we were able to deliver our goods in 1902 better than ever before in the history of our country to the amount of thirty million dollars, or five million more than the year before.

Now, this five million dollars means an additional buying power to the people, on account of the intelligence the dairymen have put forward this last year, and I say there is no set of men in the Dominion of Canada who

deserve the thanks of Canada so much as do the dairymen, who have pressed forward in connection with this work. You talk about the gold in the Yukon, and these other places. When you take the gold out it is gone, but we took our forty-five million dollars in dairy products and bacon this last year from our farms, and yet to-day, the stables and the cattle and the man behind the cow are better conducted, and better able to produce five million dollars more in 1903 than they were to make five million additional in 1902. I believe that never in the history of the country have our men become so thoroughly alive to the interest of the work we have in hand as they are to-day. I believe our farmers are now realizing that they must furnish proper product to the factory, and I think that is one of the things we are going to take up more fully in 1903. We are going to get the farmer so interested in the work that he will have an interest in the factory, and will feel that he is going to look after the man who makes the cheese. In the past the cheesemaker has been finding fault with the man on the farm, but I believe the time is coming when the man on the farm will look after the man in the factory just a little, and see if they have the proper building and proper drainage and have cool-curing rooms, so that they can control the temperature and do proper work. Then they will have a pride in the work, and will be delighted to say to strangers, "This is our factory; I belong here, my interests are here; this is one of the established institutions of the country."

Do you know that in the past factories have been built that looked as if they were built expecting the business to quit after the first year. Thousands of factories have been put up of a temporary character. They would dig half a dozen post-holes in the ground, and put down cedar posts, and throw the factory up on the posts, expecting it would run only that year; but to-day we are building factories with solid stone foundations, cement floors and proper drainage, with lawns in front of the factories, and shade trees to beautify the place and make it something to feel proud of.

The Government of the Province of Ontario is spending large sums of money to educate the young men to make fancy butter and cheese, and I say to you that unless we have factories thoroughly up to date with everything in the best condition, and that unless the farmers take an interest in their work and co operate by sending the best of milk, these young men will not be able to make the finest quality of cheese or butter.

In connection with the convention in the east the most important point we brought out was to keep everything clean, from the farmer right up through, and to keep cool. These are the important points of our work. If we could induce the farmer to brush off the cows before they are milked, and have the stables clean and bright, and everything pure and bright about them, and if the milkers put on white aprons and white caps and have their hands clean, then we would get a first-class quality of milk delivered to the factory in nice clean condition, and the business would be in a proper shape; but if you deliver ordinary milk to the cheesemaker in cans that are not clean, and in milk waggons that have never been painted or washed, and the milk drawer dressed in clothes that would stand alone, then, I say, you cannot expect much from the business. It discourages the men who are manufacturing the cheese, and hinders them in their work.

The position we have taken this year is that we are going to make a finer quality of goods, and I believe to-day is the day to start, and have everything in connection with the business, clean, tidy and thoroughly up to date. I believe the princely merchants of Montreal who handle our goods have a greater intelligence in connection with this work than they

ever had before, and I believe the handling of the goods from the factory to them, and from them to the consumer, is now done in a better way than it ever was before; and I believe it is up to us men who own the cows and the factories, and to the men who make this cheese and butter, that they should do better service to the country than ever before, and if we do that we can add another five millions to the worth of our products in 1903.

Do you know that a cow is just as jealous as a girl is of her best fellow. When she sees him out walking with some other girl there is trouble in the camp, and if you do not milk the cow that you have been in the habit of milking first in the morning, she feels slighted. If you have been in the habit of milking Mary first, milk her first, and so on, and keep that habit up because the cow likes it, and be sure that your hands are clean before you do it.

ADDRESS.

By Mr. Wieland, Montreal.

You have heard a great many things this evening which sounded very nice, and any speaker who has a gift of making things appear pleasing has, I believe, a God-given gift. The record of Canada has been, to my mind, monumental. The record of its extension in cheese making is positively astonishing. In 1880, roughly speaking 20 years ago, the United States used to supply Great Britain with the bulk of her foreign cheese, and used to export to Great Britain in the neighborhood of 2,200,000 boxes of 60 lbs. weight each. And Canada supplied something like 500,000 boxes. This year, 1902, Canada exported from the beginning of navigation of Montreal to the end, about 25th November, about 2,200,000 boxes from 70 to 90 lbs. weight each, so that you have entirely reversed the position. The exports from New York from the first of May, 1902, until the last week in January, was 204,000 boxes. American cheese has gone so far back that they cannot compete with Canada, although it must not be forgotten that the Canadian advance in the exporting of cheese was by their superior quality. The United States got into the way of making skimmed cheese, and as a mercantile article it was a good thing for some dealers, but the people would not have it in the long run.

The United Kingdom imports about one hundred million dollars worth of butter. Of that Denmark supplies about one-half. Canada barely supplies the twentieth part, so you can see the room there is for Canada in that respect. The Englishmen are not particularly in love with the Danes, and would rather deal with the Canadians. It might be well for the Canadians to learn the lesson of how Ireland lost her butter trade. The Irish butter used to be the sole dependence of England, but they knew more about butter than the Englishmen, and they knew better what the Englishman wanted, and they kept sending what they thought he wanted, with the result that they didn't give the Englishman what he wanted, and the Irishmen got left.

The United States handles a different kind of bacon to the Canadian bacon. The United States ships a corn-fed article which is used a great deal in the north of England. The Canadian bacon is on the style of the Danish bacon, and I think that the finest selected Canadian bacon will compare favorably with the Danish. In fact, I think that if the brands were removed that the experts could not tell what was Canadian bacon and what was Danish bacon, and mind you the Danish bacon is getting the highest price.

I think the best thing that could happen to Canada would be to get more people into the country. It is a great and glorious country, and it will not be long before the United States will not be able to supply their own home consumption, and will have to look to Canada for part of it.

I do not think sufficient attention is being given to the raising of hogs in Canada. Both Denmark and Ireland demonstrated that the dairy business and the raising of hogs must go hand in hand.

I came here more particularly to learn. We are all trying to improve, and I am thankful and very much gratified that I have had the honor and pleasure of presenting to you these few remarks. (Applause.)

The Chairman: For the last twenty years we have had prominent Americans coming over here to attend our dairy conventions, who have helped us to build up this great dairy industry, and I believe the time is coming when we will be able to return the compliment and give the people of the United States some of our dairy products, which they have assisted us to manufacture. They say the people of the United States and our cousins abroad look much like us. When I first saw the gentleman I am about to introduce to you I thought he was a Canadian, and I hope we will make a Canadian out of him before he leaves us. In the meantime we will take all the good we can out of him.

ORGANIZED EFFORT FOR THE PROMOTION OF THE DAIRY INDUSTRY IN THE UNITED STATES.

By Major Henry E. Alvord, Chief of Dairy Division, United States Department of Agriculture.

A few days ago it was my good fortune to attend the annual convention of the Dairymen's Association of Eastern Ontario at Ottawa, and I there spoke upon "The Relation of the State to the Dairy Industry." In accordance with a request accompanying the kind and complimentary invitation to address this convention to-night, I will now describe in some measure the "Organized Efforts for the Promotion of the Dairy Industry in the United States of America, otherwise than by Federal Statutes."

The oldest and for years the most effective promoting agency has been the voluntary association of dairymen for mutual information, aid and benefit. Just such associations as these of Western Ontario, originating with the dairymen themselves, sometimes aided by the State, but oftener not, formed the first organized efforts, and for a long time the only ones, for the advancement of dairying in the United States. The American Dairymen's Association was formed in 1863 and was in active existence for about twenty years. It did not sufficiently cover the whole field, and as dairying extended into the newer States, the Northwestern Dairymen's Association was organized in 1867, and lived about a dozen years. I believe the old Canadian Dairymen's Association, which met so often at Ingersoll, came into existence a little later (1868), and just as the latter was forced after some years to give place to organizations covering less territory, so our two earliest were supplanted by associations formed within the confines of single States. The Vermont Dairymen's Association was the first of this class to be formed in the year 1870, and is to-day the oldest volunteer organization of dairymen in continual organic existence in America. Pennsylvania, then an active cheese-making State, was the next (1871) and the Wisconsin Dairymen's Association was formed the next year (1872). Then came Illinois, 1874; Iowa, 1876; New York, 1877; Minnesota, 1878; among later organizations those of Kansas, 1888; Oregon,

1892; and California, 1893. I believe that this Association of Western Ontario, under its present name and style, was formed the same year that your New York neighbors organized by themselves; that association has been in continual activity and has been a power for good.

Last year there were 33 State associations of dairymen in 29 different States. The States having more than one were California, Minnesota and Wisconsin; the last has not only its original State association, but also the Wisconsin Cheese Makers' Association (1893) and the Wisconsin Buttermakers' Association (1901), mentioned as independent bodies. Besides these State associations there are a few so-called "national" organizations, a few regional or embracing active members from two or more States, and a few semi-State. Altogether, there are 42 of these prominent volunteer societies in the United States, formed in the interest of the single industry.

The State Dairy Associations differ much in character. Some are large and some small; some strong and some weak; some are incorporated and some barely hold together by mutual consent. In some the membership is mainly annual, changing much from year to year; in others life members constitute the majority and give a greater continuity to the character and influence of the body. Some are self-sustaining and others have public aid ranging all the way from $25 or the free publication of reports, to a substantial annuity. The old Wisconsin Association gets $4,000 a year from the State, and is obligated to carry on certain public work. As a rule these associations hold an annual convention occupying one to three days, publish the proceedings thereof and do little else. A few, however, do much more, maintaining a practically continuous career of usefulness. Of the State and similar associations eighteen publish their proceedings annually, in pamphlet forms or as independent volumes. In some other cases the annual reports form a part of the agricultural volumes of their respective States. Collectively, these published proceedings constitute a very valuable mass of dairy literature. It is well worthy of being collated, or at least systematically indexed, but unfortunately this has not been done. Consequently much rich material is hidden, comparatively unknown, and difficult of access to those acquainted with its existence.

A number of the dairy associations referred to hold very creditable exhibitions of products in connection with their annual meetings, and award substantial prizes. There are also large displays of dairy machinery, apparatus, utensils and supplies. A few conduct eductional butter tests or competitions, somewhat after the pattern of the celebrated collections and examinations of butter at Copenhagen under the auspices of the Danish Government.

Farmers' Institutes are the next powerful form of organized efforts to promote dairy interests. This great work has been organized within 20 or 25 years and most of it within 10 years. The institutes are generaly under State supervision, regarded as a more or less integral part of the system of public instruction and largely supported by public funds. In 43 States there is now some sort of provision for farmers' institutes. In some cases they are managed by the State agricultural colleges, and very generally number college and experiment station men among their active workers. It is estimated that during the year 1903 there will be 2,500 different institute meetings held for the benefit of farmers in the United States. The average cost of these meetings is about one hundred dollars, making a total annual expenditure for this purpose, approximating 250,000 dollars. The purely dairy meetings among these institutes are comparatively few, but dairying is a subject given a share of attention almost

everywhere, and this branch of farming in its different phases assumes more or less prominence at the institutes according to the conditions of the localities in which they are held.

Within twenty years State commissions and commissioners have been created by law, especially charged, in most instances, with the administration of certain laws or classes of laws. The officials are variously entitled "State Dairy Commissioner," "Food Commissioner" and "Dairy and Food Commissioner." New York was the first State to create such an office in 1884, and was followed by Iowa, in 1886. There are now twenty-two States having officials of this character. In most cases their efforts are largely directed towards the enforcement of State laws aimed to prevent frauds in dairy products and other foods, and the maintenance of State standards of purity. In some instances they are charged with a general advisory oversight of creameries and cheese factories and given more or less power as inspectors. Some provisions are made for instruction and for gathering statistics. Supervision of city milk supply is included in a few cases. For examples of the varied character of the duties assigned to this class of officials, the following extracts are quoted from the laws of three widely separated States, in all of which dairying is one of the most important branches of agriculture :

New York. Laws of 1893: Section 4. The commissioner of agriculture may appoint and employ not more than five expert butter and cheese makers, who shall, under his direction, examine and inspect butter and cheese factories and attend at agricultural fairs, societies and meetings designated by the commissioner, to impart thereat information as to the best and most approved method of making butter and cheese and improving the quality thereof.

Oregon. Laws of 1899. Section 5. * * The person elected as such commissioner (dairy and food commissioner) shall be well qualified in dairy matters and qualified to give theoretical and practical instruction in dairying; and it shall be the duty of such commissioner to give practical and theoretical instructions in dairy matters, whenever and wherever opportunity offers within the State, and to collect and disseminate such information as is calculated to develop the dairy interests within the State. * * It shall be the duty of said commissioner to visit and inspect each and every creamery operated within the State of Oregon at least once a year.

Wisconsin. Laws of 1897 and 1898. The dairy and food commissioner, with the approval of the Governor, shall have authority to appoint an agent for the inspection of milk dairies, factories and creameries, and to assist in the work of the dairy and food commission at such times and for such periods of time as may be required in the enforcement of the dairy and food laws of the State.

The Governor may authorize the commissioner or his assistants, when not engaged in the performance of other official duties, to give such aid in farmers' institutes, dairy and farmers' conventions and the agricultural department of the State university as may be deemed advisable.

Regular dairy instructors, working in the factories with butter and cheese-makers, and itinerant in their work, have thus far been employed only in the States of New York and Wisconsin. In the former there are seven butter and cheese instructors, supported by the State Department of Agriculture, which superseded the "State Dairy Commissioner" by a course of development similar to that which has taken place here in Ontario. These instructors spend their time among the factories a great part of the year and generally have places on the staff of Institute workers during the winter months. Besides them the same Department employs

34 inspectors of milk, factories and milk products, chiefly assigned police duties, in enforcing the laws relating to purity and standards. In Wisconsin the State Dairy Association (aided by public funds, as already explained) employs four dairy instructors for work among the factories, two for cheese of the Cheddar type, one for Swiss cheese and one for creamery work. Some similar work of instruction and inspection with a view to friendly criticism, but less in quantity and less systematic, is done in Illinois, Iowa and Michigan, by officers of the State dairy commission or of the agricultural colleges.

The dairy schools and courses of technical dairy instruction in the United States comprise the newest and by far the most important and permanent organized effort now in existence for the promotion of the dairy industry. Nearly all of this work is directly connected with the agricultural colleges, of which there is at least one in every State in the Republic. These are institutions similar to the one at Guelph, and of average age about the same. There is an agricultural experiment station attached to almost every college, and in some cases the work of these stations is closely related to the dairy schools. Nearly all the colleges include dairy instruction in their regular courses of study, and as the latter cover three or four years it often happens that a college student gets as much dairy instruction in this way as is given by the special schools. The instruction of the college courses is less condensed in time, and may have somewhat less of the practical feature, but is likely to be more thorough in theory and broader, as a whole, because embracing more related studies. To accommodate those who wish to specialize and devote much less time to study than required by a college course, the regular Dairy Schools and Short Courses have been established. These have all begun within ten or twelve years and most of them within the last five years. Wisconsin was the first to organize a special dairy school, in 1890, attached to the College of Agriculture of the State University at Madison. Vermont was the next, making her school, begun in 1891, a part of the Agricultural Experiment Station, that being under the State University at Burlington. There are now 22 of these Dairy Schools, in as many different States, and well planned courses of dairy instruction in the colleges of 20 other States. The special schools hold annual sessions of 6 to 12 weeks in length, and some of these give such a session to a single branch like farm dairying, followed by another for creamery management, and another for cheese-making, thus carrying the specialization further and economizing the time of the pupils. As a rule, there is no fixed standard or examination for entrance, the applicant being simply required to show himself capable of making good use of the facilities afforded. Pupils are generally preferred who have had practical dairy experience, and there is no age limit; a majority of the pupils are often adults. The fees, if any, are usually nominal, and the cost of living, economically arranged, is the only expense besides a few books. Some of these institutions give no written testimonial for attendance at a single short session of this technical instruction, others give a simple certificate stating the facts, and a few grant formal diplomas. The latter are in most cases carefully guarded and reserved for those who not only do good work at two annual sessions, but subsequently demonstrate capacity by successful dairy practice for a year or two. Such conditions are required by Wisconsin and Minnesota.

The attendance at these dairy schools and special courses of instruction ranges from 30 to 120 per session, the average being about fifty pupils. In each of the schools of the two States last named there are over 100 pupils at every session. It is estimated that there are annually 1,000 pu-

pils in the regular dairy schools, as many more taking special dairy courses, and 5,000 to 6,000 in all receiving instruction in dairying during more or less of the year. During the last ten years about 6,000 different pupils have attended the different dairy schools. Wisconsin reports 1,394 dairy school pupils prior to the year 1903, and of these 266 have received final certificates of proficiency. In Minnesota there have been over 1,000 pupils in all, and 121 have received certificates.

The facilities for instruction are excellent in the best American Dairy Schools and are constantly improving. In buildings and equipment these schools far surpass the best of those in Great Britain and the dairy countries of Europe. At four or five of the colleges, creameries are conducted upon a commercial basis the year through, for the special purpose of affording illustration and practical instruction to dairy pupils.

As showing the lines of technical dairy instruction offered in representative States, the following facts are condensed from the published statements : California, creamery and cheese factory practice and management, in the autumn; ranch dairying in the winter. Illinois, February to June, farm dairying, creamery practice, city milk supply and dairy bacteriology; September to February, management of milk, creamery and cheese factory. Iowa, Farm dairying in the spring; cheese-making in autumn ; creamery practice in winter; one and four year courses. Kansas, short courses during the winter, in farm dairying, creamery work and cheese-making. New York, Farm dairying in autumn and winter; creamery and cheese factory practice in winter. Tennessee, farm dairy, creamery, cheese factory and commercial milk dairying, in the winter. Vermont, creamery practice and management, in winter. Wisconsin, farm dairying, creamery and cheese factory work, in winter; special courses in the summer.

The equipment and general facilities for instruction in these dairy schools cannot well be described, but the range of teaching and the organization for instruction can be seen from the following list of teachers announced by one of the typical institutions :

(1) Professor of Dairy Husbandry, in charge; (2) Professor of Chemistry of Milk and its Products; (3) Dairy Bacteriology; (4) Steam boiler, engine and machinery; (5) Breeds and breeding of dairy cows; (6) Feeding the dairy cow; (7) Physicial problems of the dairy; (8) Instructor in Milk Testing; (9) Instructor at Separators; (10) Instructor in Butter making; (11-15) Five Instructors in cheese making; (16) Instructor in Pasteurizing; (17-18) Two instructors in farm dairying; (19) Dairy machinery repairs.

The work of the Agricultural Experiment Stations is an important factor in the promotion of dairying in the United States, although this belongs also to the means of State Aid given to the industry. Important investigations are constantly in progress. It is only necessary to mention a few of the most valuable practical results of this scientific work, the fat test for milk; the acid tests of milk and cream; the perfection of pure cultures for cream ripening; the prevention and control of noxious bacteria and the increased knowledge of principles in making and curing cheese, constitute a collective contribution from these stations within a few years of almost incalculable value to the dairy.

Add to the foregoing enumeration of organized efforts the labors of intelligent, experienced and progresssive men engaged in the business, and we recognize a combination of force which easily explains the wonderful progress made in advancing the dairy industry in America during the closing years of the nineteenth century and the opening of the twentieth.

Mr. Derbyshire : I would just like to draw attention to the fact that in each of our dairy schools there is a proper course of training with re-

gard to the manufacture of fancy butter, and we have also a course of training for young people who want to make butter on the farm, and to-morrow morning, if the Major attends, he will hear an address from Archibald Smith, Superintendent of the Dairy School at Strathroy. I want to say that in the Province of Ontario the cheese business will stand to the front forever more. (Applause.) And we want to make all the butter we can and make rapid progress in connection with the butter business. Our butter business is not going to be neglected. In the meantime, we have 68 per cent. of the import business of the Mother Country for our cheese, which we are going to hold, and we are also hoping to get 68 per cent. of the butter business, and Major Alvord will be delighted when he knows that.

REPORT OF JUDGES ON DAIRY EXHIBITS.

Mr. John McKergow, of Montreal, in introducing the report of the Judges on cheese and butter exhibits, said : We examined very carefully all these exhibits, and you will notice there are over 150 entries. We are disappointed in the September cheese. The last half of September and the first half of October should be the best of the season. The past year was certainly favorable for cheese-making. Makers who failed to make good cheese last year are hardly a credit to the profession. The fault we found in the cheese was a variety of flavors, caused possibly by careless or dirty milk. Some of the cheese had a fruity or sweet flavor and some of them were decidedly bad. Some of the samples were splendid in texture, in color and in style. One thing we noted particularly was the absence of cap-cloths. We noticed some put a cap cloth on and then tore it off before shipping. One object in having these cap-cloths is to prevent the cheese being rubbed with dirty hands.

As regards the butter we are highly pleased. Some beautiful samples were shown. We had unsalted butter, butter with one to two per cent. of salt, and three per cent. of salt. These grades are all required for the different markets. The inland towns of Great Britain like more or less salt in their butter. In this country we are very fond of salt, because there is very little salt in the atmosphere. In a great many places in Great Britain they are breathing salt air all the time, and therefore do not require to take much.

There are some little points in connection with the butter that are most important. We find very few of the boxes put up properly. The makers do not use the best quality of parchment paper, and do not put on double paper. It is not sufficient for a maker to manufacture the butter so as to have the buyer pass it and pay for it. That butter has to be put on the market and transported to long distances, and unless it arrives on the market in good condition it will injure the trade. When the man on the other side who buys the butter finds it mouldy, he says, "That is Canadian butter, mouldy butter : no more Canadian butter for me."

There are no more stubborn people on the face of the earth than Englishmen, and you could not have a better friend if you give him what he wants. The question is, do we want to get hold of this butter market of Great Britain. Great Britain imports nearly $100,000,000 worth of butter, and we only sent $7,000,000 worth last year.

We have a beautiful climate here, and beautiful water, and we surely have the brains; and all we require to do is to use the brains Providence has given us, and we will get along.

I do not think the consumption of cheese is any greater now than it was fifteen years ago, while the consumption of butter has increased four

times, which goes to show that a great many people are eating less cheese. The way to get them to eat cheese is to give them something real nice and tasty. Put them up in an attractive form, and you will find that the consumption will increase.

I believe myself there is no food healthier than good cheese if it is clean and well cooked. It is nourishing. There is no food that can be prepared for a family in humble circumstances that will do the good that cheese will.

It is a great pity the consumption of cheese in Canada is so small, and that the people use so little of it.

If we would eat less tough beef steak and more mellow cheese I think we would be healthier and happier.

REPORT OF JUDGES ON CHEESE AND BUTTER EXHIBITORS.

We beg to report that after a careful examination of all the lots competing for the various prizes offered by your Association we have awarded the trophy to Frank Boyes, Kingsmill, P.O., whose lot scored 98 points.

Cheese.	Points.	Awarded to :
1st prize, white, September	98	Frank Boyes.
2nd prize, white, September	97	R. H. Green.
3rd prize, white, September	96½	A. T. Bell.
1st prize, colored, September	97	Robert Cuddie.
2nd prize, colored, September	96½	J. H. Evans.
3rd prize, colored, September	96	John Francis.
1st prize, white, October	97½	Miss Mary Morrison.
2nd prize, white, October	97	W. A. Bell.
3rd prize, white, October	96	Frank Travis.
1st prize, colored, October	97½	S. P. Brown.
2nd prize, colored, October	95½	John Francis.
3rd prize, colored, October	95	Frank Travis
Butter.		
1st prize, 56 lb. box	98½	W. M. Waddell.
2nd prize, 56 lb. box	98	Robt. Cuddie.
3rd prize, 56 lb. box	97	A. C. MacEwan.
1st prize, ten one pound prints	98	Andrew Riddell.
2nd prize, ten one lb. prints	96½	E. M. Johnston.
3rd prize, ten one lb. prints	95½	J. R. A. Laing.

For the information and guidance of the makers and others interested in these awards we would like to draw attention to some of the faults we found so that they may be looked into and put right in the future.

Flavor is the most important factor in cheese or butter, as no buyer could pass goods as best that were defective on this point. We found that many of the cheese submitted were sweet, fruity, or badly off. Considering the favorable season and time of the year these were made this should not have been the case.

Many of the lots were seamy or streaky in color. This fault requires looking into.

The texture and color of the bulk of the lots were satisfactory. The style was generally good, but an absence of cap cloths was noticed. We would recommend all factories to use a permanent cap cloth.

Butter: We were pleased to record that we found the box butter a most creditable exhibit, some of it of a very high class. Some of the samples were unsalted, others salted 1, 2, and 3 per cent., all suitable for the various markets.

The objections we desire to point out are : Stable and other undesirable flavors, some lots overworked, and some dry, caused by churning and working at too low a temperature. Many of the lots were poorly papered, having only one paper, and that not the best quality. We strongly recommend all makers to use the best quality of heavy pure vegetable parchment and double paper.

All of which is respectfully submitted,

JOHN MCKERGOW,
J. B. MUIR,
J. A. RUDDICK.

SCORES OF CHEESE AT WINTER DAIRY EXHIBITION, 1903.

Class 1. Section 1. White Cheese made from Sept. 15th to 30th, 1902.

No.	Name.	Address.	Flavor. 45	Texture. 30	Color. 15	Finish. 10	Total. 100
3	Frank Boyes	Kingsmill	44	29	15	10	98
4	W. P. Stacey	Fullarton	35	28	15	9	87
10	Robert Johnston	Bright	35	28	14	8	85
11	F. H. Brooks	Zenda	38	26	15	8	87
12	Walter Hamilton	Listowel	40	28	14	9½	91½
13	Connolly Bros	Thamesford	41	29	15	10	95
14	Robt. Cuddie	Woodstock	42	28	15	9½	94½
15	Parlance Christie	Woodstock	42	27	15	9½	93½
16	W. B. Thomson	Nile	40	27	15	8	90
17	A. T. Bell	Tavistock	43	29	15	9½	96½
18	Robt. H. Green	Trowbridge	43½	29	15	9½	97
19	Alex. McKay	Brooksdale	41	27	14	8½	90½
20	T. O'Flynn	Tavistock	43	29	15	9	96
21	Miss Mary Morrison	Newry	42	27	14	10	93
25	A. F. Clark	Poole	38	28	14	9	89
27	Geo A. Boyes	Putnam	40	29	14	8	91
28	Geo. G. Ludlow	Holmesville	42	28	14	9	93
31	Chas. Landers	Sebringville	43	29	15	9	96
36	W. J. Goodwin	Brussels	38	27	14	9½	88½
44	John Francis	Eden	41	28	15	8	92
59	W. J. Holmes	Bornholm	42	28	15	9	94

Judges' Notes : (3) Sound; (10) Dirty flavor: (11) Inclined to fruity flavor; (13) Bitter: (16) Rife, tasty, dry; (19) Seamy color, G.S.; (21) Seamy; (25) Fruity, dirty, seamy: (27) Seamy color, fat, bitter; (28) Seamy color, stiff; (36) Dirty, sweet; (44) Cracked top, dirty flavor.

Class 1. Section 2. Colored Cheese, made from Sept. 15th to 30th, 1902.

No.	Name.	Address.	Flavor. 45	Texture. 30	Color. 15	Finish. 10	Total. 100
3	Frank Boyes	Kingsmill	43	29	14	9	95
6	W. A. Bell	Pine River	42	27	14	9½	92½
8	John Connolly	Malcolm	43	28	14½	9½	95
9	J. Ira Cosens	Ethel	42	27	15	9½	93½
12	Walter Hamilton	Listowel	40	27	13	9½	89½
13	Connolly Bros	Thamesford	41	27	14	10	92
14	Robert Cuddie	Woodstock	44	29	14½	9½	97
16	W. B. Thomson	Nile	41	26	14	9	90
17	A. T. Bell	Tavistock	43	28	14	9½	94½
36	W. J. Goodwin	Brussels	44	28	14	9½	95½
41	John Baskett	Vittoria	35	28	13	10	86
44	John Francis	Eden	43	29	15	9	96
45	J. H. Evans	Burgoyne	43	29	14½	10	96½
48	Thos. E. Nimmo	Ripley	42	27	14	8	91
56	Arthur Taylor	Stratford	41	27	14½	9	91½

Judges' Notes : (6) Loose; (12) Mottled; (16) Dry, chippy; (36) Checked top; (41) "Off"; (44) Cracked top; (48) Cracked, untidy.

Class 2. Section 1. White Cheese, made from Oct. 15th the 31st.

No.	Name.	Address.	Flavor. 45	Texture. 30	Color. 15	Finish. 10	Total. 100
3	Frank Boyes	Kingsmill	40	27	15	9½	91½
4	W. P. Stacey	Fullarton	38	28	15	9	90
6	W. A. Bell	Pine River	43	29	15	10	97
9	J. Ira Cosens	Ethel	38	29	15	10	92
12	Walter Hamilton	Listowel	42	28	15	9½	94½
13	Connolly Bros.	Thamesford	43	28	15	9½	95½
16	W. B. Thomson	Nile	40	29	15	9	93
18	Robt. H. Green	Trowbridge	40	29	15	10	94
19	Alex. McKay	Brooksdale	41	28	15	9	93
20	T. O'Flynn	Tavistock	39	28	15	9½	91½
21	Miss Mary Morrison	Newry	43½	29	15	10	97½
23	W. M. Waddell	Kerwood	38	29	15	10	92
25	A. F. Clark	Poole	38	28	15	9½	90½
30	G. M. Mackenzie	Ingersoll	40	29	15	10	94
34	W. J. Hartley	New Durham	40	28	15	9	92
35	J. H. Williams	Lyons	41	28	14	9½	92½
36	W. J. Goodwin	Brussels	42	29	15	9½	95½
39	P. C. Papineau	Cairngorm	40	29	15	9½	93½
44	John Francis	Eden	41	28	14	8½	91½
46	Frank Travis	Courtland	43	29	15	9	96
52	John Stubbs	Culloden	38	29	15	9	91
59	W. J. Holmes	Bornholm	41	29	15	9½	94½

Judges' Notes : (3) Fruity, loose; (4) Dirty flavor, cracked; (12) Cracked; (18) Bitter; (19) Bitter; (23) Dirty flavor; (30) Paraffined; (34) Fruity, checked; (35) Amber; (39) Dirty flavor; (44) Cracked; (46) Cracked.

Class 2. Section 2. Colored Cheese, made from Oct. 15th. to 31st.

No.	Name.	Address.	Flavor. 45	Texture. 30	Color. 15	Finish. 10	Total. 100
3	Frank Boyes	Kingsmill	41	28	14½	9½	93
6	W. A. Bell	Pine River	38	27	15	9½	89½
7	S. P. Brown	Birnam	43½	29	15	10	97½
8	John Connolly	Malcolm	42	28	14½	9½	94
9	J. Ira Cosens	Ethel	42	27	12	10	91
10	Robt. Johnston	Bright	40	28	15	9½	92½
12	Walter Hamilton	Listowel	40	27	13	9½	89½
13	Connolly Bros.	Thamesford	42	28	13	10	93
14	Robt. Cuddie	Woodstock	38	28	12	9	87
16	W. B. Thomson	Nile	38	27	14	8	87
23	W. M. Waddell	Kerwood	42	28	13	9½	92½
33	A. W. Darroch	Fordwich	40	28	14½	9	91½
35	J. H. Williams	Lyons	41	28	12	10	91
36	W. J. Goodwin	Brussels	40	28	13	10	91
44	John Francis	Eden	42	29	15	9½	95½
46	Frank Travis	Courtland	42	29	14½	9½	95
48	Thos. E. Nimmo	Ripley	41½	29	14½	9½	94½

Judges' Notes: (3) Dirty burnt flavor; (6) Open; (7) Cloth on end—good idea; (8) Seamy; (9) Loose, mottled; (10) Dirty burnt flavor; (13) Mottled color; (14) Not clean, mottled; (16) Not clean; (33) Dirty burnt flavor; (36) Spotted color; (44) Slightly fruity, cracked; (46) Not clean, checked.

Scores of Butter at Winter Dairy Exhibition, 1903.

Class 3. Section 1. Creamery Butter. 56 lb. Box.

No.	Name.	Address.	Flavor. 45	Texture. 25	Color. 15	Salt. 10	Finish. 5	Total. 100
3	Frank Boyes	Kingsmill	44	23	15	10	4	96
4	W. P. Stacey	Fullarton	43	22	15	10	4½	94½
5	H. Weston Parry	Compton, Que	38	23	14	10	4	89
7	S. P. Brown	Birnam	42	23	15	9	4	93
10	Robt. Johnston	Bright	43½	23	15	10	5	96½
12	Walter Hamilton	Listowel	38	22	15	10	4½	89½
14	Robt. Cuddie	Woodstock	44	24	15	10	5	98
18	Robt. H. Green	Trowbridge	38	22	15	10	4	89
19	Alex. McKay	Brooksdale	40	23	15	10	4½	92½
22	J. C. Bell	Winchelsea	42	23	15	10	4½	94½
23	W. M. Waddell	Kerwood	44	24½	15	10	5	98½
24	J. R. A. Laing	Avonbank	42	23	14½	10	4½	94
25	A. F. Clarke	Poole	43	23	15	10	5	96
26	W. K. MacLeod	Vanneck	40	23	15	10	4	92
29	Jas. Ireland	Beachville	42	23	15	10	4½	94½
30	G. M. MacKenzie	Ingersoll	42	23	15	10	4	94
31	Chas. Landers	Sebringville	41	22	15	10	4½	92½
32	H. A. Southwick	Avonton	33	22	15	10	4	89
40	Andrew Riddell	Hickson	43	23	15	10	5	96
41	John Baskett	Vittoria	37	23	15	10	5	90
42	David Papple	Brantford	36	21	14	10	4	85
43	Delly Bennett	Russelton	42	23	13	10	4	92
47	Eastern Dairy School	Kingston	40	23	15	10	5	93
50	A. C. MacEwan	Sebringville	44	24	15	10	4	97
51	E. M. Johnston	Innerkip	43	23	15	10	5	96
55	Chas. Bennett	Russelton	40	22	14	10	4	90
59	W. J. Holmes	Bornholm	41	22	15	10	4½	92½

Judges' Notes: (3) Unsalted, S.P.; (4) Dry; (5) Bad flavor, high color; (7) Gritty salt; (12) Burnt flavor; (14) Good double paper; (18) S.P.; (19) Good paper; (22) L. P., old flavor; (24) One light paper; (29) L. P., old flavor; (31) Tallowy, dry; (40) Heavy paper; (41) Good paper, bad flavor; (42) Tallowy; (43) Mottled, L.P.; (47) Stable flavor; (50) Light Paper; (51) Good paper; (55) S.P.; (59) One light paper; (10) Good paper.

Class 3. Section 2. Creamery Butter. 10 one-lb. Prints.

No.	Name.	Address.	Flavor. 45	Texture. 25	Color. 15	Salt. 10	Finish. 5	Total. 100
1	E. H. Thamer & Co.	New Dundee	40	22	15	10	5	92
3	Frank Boyes	Kingsmill	41	23	15	10	5	94
5	H. Weston Parry	Compton, Que	38	22	15	10	5	90
7	S. P. Brown	Birnam	41	23	15	10	5	94
12	Walter Hamilton	Listowel	38	22	15	10	5	90
17	A. T. Bell	Tavistock	42	22	15	10	5	94
22	J. C. Bell	Winchelsea	41	23	15	10	5	94
23	W. M. Waddell	Kerwood	43	22	15	10	5	95
24	J. R. A. Laing	Avonbank	42½	23	15	10	5	95½
26	W. K. MacLeod	Vanneck	43	22	15	10	5	95
29	Jas. Ireland	Beachville	43	22	15	10	5	95
30	G. M. Mackenzie	Ingersoll	41	23	15	10	5	94
32	H. A. Southwick	Avonton	38	22	15	10	4½	89½
37	C. E. Lister	Chatham	41	22	15	10	4½	92½
40	Andrew Riddell	Hickson	44	24	15	10	5	98
43	Delly Bennett	Russelton	42	23	15	9	4½	93½
50	A. C. MacEwan	Sebringville	42	23	15	10	5	95
51	E. M. Johnston	Innerkip	43½	23	15	10	5	96½
55	Chas. Bennett	Russelton	42	22	15	10	5	94
57	Asa Pound	Sparta	42	23	15	10	5	95
58	Wm. S. Tucker	Brigden	35	22	15	10	0	82

Judges' Notes: (26) Spongy; (29) Spongy; (37) Spongy; (43) Gritty; (58) Not proper paper.

J. B. Muir, Ingersoll: I would like to emphasize what Mr. McKergow said in reference to using parchment paper in packing butter. It is a very important matter, and everybody who has handled butter in this country has had more or less trouble with the butter turning out mouldy. That is caused very much by the quality of the parchment paper around it. We get very little butter with pure parchment paper around it. It behooves every dairy man and factory man here to get the very best paper he can buy. I am sorry to say the print butter was not very creditable. A large percentage of it is soft in character. You could hardly draw a plug out of it. Some lots were very nice, but much of it was spongy and of a poor flavor.

J. A. Ruddick: I have very little to add to what has been said so well by Mr. McKergow and Mr. Muir. I am glad Mr. McKergow emphasized the point as to using cap-cloths on the cheese. You are behind in Western Ontario in that respect. In other parts of the Dominion of Canada the cheesemakers use cap-cloths and do away with these top cloths that smell so badly about cheese factories.

I think it is important to use good parchment paper. Canadians are deficient in this respect. In Australia and New Zealand they pay more attention to that sort of thing, and it will pay you to get the best quality and the heaviest kind of paper. One of our great troubles is that we try to do things too cheap, which is sometimes "Penny wise and pound foolish." The parchment paper should weigh 45 pounds to the ream, measuring 24 by 36 inches, and I think it is a good plan to put it on double. If you have very heavy paper it is not necessary. One difficulty you will find is that you cannot purchase a very heavy paper because the importers have brought in just the kind of paper you have been asking for.

I fully concur in what Mr. McKergow has said with regard to the cheese and butter. I think the box butter here is almost, if not fully equal, to the butter exhibited in Toronto last fall, where I had the pleasure of judging it, and it is very encouraging, and especially encouraging to me, because, as most of you know, I had a good deal to do with the inception of winter dairying in this country. It was prophesied we would never be able to make good butter in the winter, but I think you have demonstrated here to-day that first-class butter can be made here in the winter. It is rather a curious circumstance that the best butter made in the Dominion of Canada in the summer time comes from the Province of Quebec, and that the best butter made in the winter time is made in the Province of Ontario. I am very glad the butter makers of Western Ontario have demonstrated the fact that first-class butter can be made in the winter time. It shows that the farmers have improved in handling their cattle, and the butter makers are learning how to make butter in the winter time.

Mr. Wenger: I have been in the habit of using 50-pound paper. Would you advise that paper to be used double?

Mr. McKergow: Yes.

Mr. Wenger: Would it not do to use that single?

Mr. McKergow: I think you should use the very best paper you can buy and put it on double.

Mr. Wenger: The patrons handling my butter said it was practically the only butter received that did not mould.

Mr. Derbyshire: How can you furnish this better material and better cap-cloths and do the work for less money? Can you explain that?

Mr. McKergow: We have been exporting a great deal of unsalted butter and that is very much more sensitive to mould. Butter that is very highly salted won't mould as quickly as these delicate butters: but, of

course, you get the best price for the unsalted butter. I think the insane competition amongst factory men has wrought a great deal of harm in this country. You have been filing down the cost of manufacturing cheese and butter till you have got the price below what it is worth. I think the farmers are getting good prices for their milk, and they should see that the factory man gets a sufficient price to buy the very best material. You cannot hire makers that have intelligence, and are willing to stick to the business, unless you pay them good wages, and I think the cost of manufacturing butter and cheese is too small. A man cannot travel in the cabin of a steamer on a steerage ticket. If you want the best you have got to pay for it.

Mr. Derbyshire : In 1902 the farmer made money and everybody made money except the butter and cheese makers, and they did not make as much money as they did the year before, because they had to pay more for labor, and more for fuel, and do the work for the same money. (Applause.)

THE MAKING OF UNIFORM CHEESE.

By A. T. Bell, Tavistock.

Uniformity in cheese, provided the quality is right, is what we as cheesemakers are all aiming at. In studying this question it seemed to me that it would be almost necessary to rehearse the whole system, but that would be impossible in the time allotted to this paper. I will therefore try and confine myself to the more important points, the observance of which will enable the cheesemaker to arrive at satisfactory results as to uniformity. In the first place it is absolutely necessary that the man at the helm (the cheesemaker) must be a man of good sound judgment, level-headed and of steady nerve. He must be on the weighing stand himself to take in the milk, he must know exactly what kind of milk is being delivered, and be able to distinguish and discriminate by flavor what milk can be safely received and what milk rejected and returned to patrons, for there never was a cheese factory in existence when there was uniformity in the quality of the milk delivered. Hence it is necessary for the best man (and there are none too good) to be on the weighing stand to look sharply after the milk. I would like to impress this fact on all cheesemakers: that it is the commencement of the day, or the taking in of the milk, which largely determines our success or failure for the day. If a can of bad milk is allowed to slip in, it will be impossible to have uniformly good cheese for that day. Having received and heated the milk to the proper temperature, the next important step is to ascertain the condition of it as regards ripeness or acidity. This can be done by applying the alkali test or the rennet test. Either will be found satisfactory when handled properly, if the cheesemaker has any suspicion that the milk is going to work fast—which he will know if he has weighed it in himself.

It is wise to take a sample from the vat as soon as possible before it is heated to the proper temperature. It is only the work of a minute or two to heat the sample and apply the test. By doing so he will know exactly how fast the milk is going to work, and will be able to govern himself accordingly; whereas if he waits until the vat is filled and heated up he may be caught with a fast working curd, which would spoil his chances of having uniform good cheese for that day. If the milk is working slow as proven by the test it is well to use a small quantity of well prepared starter to aid the further development of acid before the application of rennet.

Applying the Rennet. This is a very important point and one upon which no cheesemaker can afford to take chances of being mistaken. See that you are using a good reliable brand of rennet, a brand which you know and have found to be uniform in strength and purity, for unless a good uniform rennet is used it is folly to expect uniformity in the cheese. I will not say what quantity to use, but will say use plenty, and know exactly what quantity of milk is in the vat, so that there will not be any possibility of making a mistake as to the amount of rennet used. This is necessary for uniformity. Be careful not to have the vat disturbed, either by jarring of floor or breeze blowing over the surface or anything that will interfere with perfect coagulation.

Cutting the Curd. When coagulation is complete, proceed to cut the curd, starting a little early, or soon enough to avoid the breaking of the curd in front of the knife, which is sure to take place if the cutting is delayed too long. Use every precaution to have the curd cut carefully and evenly, for good results in the after part of the process largely depend on how the curds are handled at this stage. See that the blades are sharp and evenly set, and that no tough pieces of solder are sticking to them, for any tearing or hashing of the curd at this stage will interfere with desired results.

Heating or Cooking the Curd. This is the next important step, and I consider it probably the most important, for without having the curds cooked properly we may strive in vain to have uniformly good cheese. To get all curds cooked to the proper degree of firmness in a given time with the right amount of acid before the removal of the whey is a fine point which can be acquired only by practice and continual vigilance. Here, as in a good many other stages of the process of manufacture, the intelligence and good judgment of the cheesemaker must be exercised, and woe betide the careless one. Soon after the curd has attained the proper temperature draw off about one-half of the whey, stirring the curd meanwhile, so when the proper stage of acidity is reached as determined by the hot iron test, the balance of the whey may be removed speedily. This might mean a great deal at times, especially if acid was developing quickly; for in order to have uniform cheese it is necessary to leave a uniform amount of acid on the curd from day to day at this particular stage. When the whey is all run off, dip the curd out into a curd sink, stirring sufficiently before allowing it to pack, so that pools of whey will not readily form on top. At this stage it is well to test the curd again with the hot iron test, as by doing so it will enable the makers to tell more accurately how much moisture to leave in the curd before packing. When packed sufficiently to hold together cut into blocks of convenient size and turn them over at intervals, piling them a little deeper, reversing the ends and keeping up the temperature until the curds become flaky and will string on the hot iron about one inch, when it is ready to mill.

Milling the Curd. Cut in convenient strips for feeding, using a knife that will cut clean without pressing the curds unduly. After milling stir well for a while, allowing to cool gradually until it is ready for salting. This is determined principally by the appearance and feel, having a glossy appearance and a distinctively greasy feel when pressed in the hand.

Salting the Curd. And now a very important process of manufacturing has been reached, strict attention to the salting or lack of attention will make or mar former attempts at uniformity. Know exactly the quantity of milk in each vat, weigh on a good reliable scale the right quantity of salt required, taking for granted that the best quality is used, spread the curd to a uniform depth in the sink, and apply the salt evenly, stirring the curd

thoroughly. In about fifteen minutes or when salt is properly dissolved, the curd may be hooped.

Hooping the Curd. Weigh the curd into the hoops, putting exactly the same weight into each hoop, thereby insuring uniformity in size as well as uniformity in quality. Dress the cheese neatly, and when taken to the curing-room, as far as possible see that an even temperature is maintained. The proper temperature at which to cure cheese has not as yet been fully determined, but from our own observation it would seem that from 56 to 58 degrees gives the very best results. However, from experiments which have been carried on by Prof. Dean in curing cheese we will be able to gain that information which will to a certainty determine this point.

And now in closing I would appeal to all cheesemakers to leave no stone unturned which might enable them to have that uniformly fine quality of cheese which is so desirable. I trust there are not a few here in this audience who have heard the very gratifying and uplifting statements from experts who have examined their cheese that their cheeses were all alike good. Statements such as "When we have seen one we have seen all" is very encouraging, and are well worth striving for; for a good reputation means everything to a cheesemaker. I could wish that every one of them had it, for it seems to me there is no class in the world to-day more deserving of recognition than the conscientious cheesemaker; there is none but himself can realize the endless toil and anxiety inseparably connected with the business of making first-class uniform cheese.

A Member: What size curd knife do you find most satisfactory.

Mr. Bell: Perpendicular knife about 3-8 of an inch. The horizontal knife is a little larger. Since we have started to use the agitator we find we have to get it a little larger. We used to get a half inch.

A Member: Do you advise cutting the curd four times in the vat?

Mr. Bell: Three times is all we have been in the habit of cutting unless it was working fast. Of course you all know you are required to cut a fast working curd finer. It cooks up very quickly.

A Member: Do you think there is any more loss cutting curd four times.

Mr. Bell: Yes. I think there is more loss. I think the oftener you cut your curd the more you lose; and in testing the whey I find that in a fine cut curd you have a larger percentage of fat in the whey.

Prof. Robertson: Does it make any difference which knife you use first?

Mr. Bell: I do not think it does; although we prefer using the horizontal, merely because we think we can have a nicer cut. It is merely a matter of choice and convenience.

A Member: How high do you usually pile the curd?

Mr. Bell: About three deep. Of course it will depend upon the depth you have it in the first place when you spread it in the sink. Say five inches deep and before we get through milling we have it three deep.

A Member: Which do you prefer to use, an agitator or your hands?

Mr. Bell: I prefer the agitator. Our custom is to take out the agitator before the whey is ready to run off, and stir a little while with the rake. It seems to firm up the curd better.

A Member: Do you stir constantly when the curd is cooking?

Mr. Bell: Stir it enough to keep it from matting in the vat, not constantly.

A Member: Do you put the agitator in at the start?

Mr. Bell: Yes, we usually put the agitator in as soon as we have

finished cutting. I think the agitator handles it more carefully than you can do it any other way.

A Member : How long do you cook the curd ?

Mr. Bell : The heat will be going on continuously for about half an hour. We raise it from 86 to 96 degrees in that time.

A Member : How long do you stir before you apply any heat ?

Mr. Bell : About ten or fifteen minutes.

Q. With the agitators ?

A. Yes, with agitators. An agitator goes slowly and gets a curd off the side and bottom. It takes about ten minutes usually before we apply any heat. I do not like to turn any heat on until I see that everything is away from the sides and bottom.

Q. You do not put your hand in it at all ?

A. Yes, you put your hands in to clean the bottom and sides off. There is always a little curd that the knife will not catch.

Q. What is the object of using two different size knives ?

A. I do not know that I can give an explanation of that. It is just because we had the other. We had a half-inch knife in the first place that we found was not cutting fine enough, so we bought a three-eighth inch knife. It would be better to have them both the same size.

Q. Have you much experience in washing curds?

A. No, I cannot say that we have had very much experience in washing curds that were faulty these last few years, or a gassy curd. I never attempt to wash the good curd. I cannot see, and never could see, why you should wash a good curd.

Q. Do you find the alkaline test more accurate than the rennet ?

A. I cannot say. I have never used the alkaline test, but I have seen it used, and I cannot say it is the more accurate. There was a party using it at our factory for a week, but they did not seem to get any closer results than we had with the rennet test. I believe it is recommended very highly.

Q. Do not you think it is more accurate than the hot iron test for getting the average percentage of the acid?

A. I suppose it would be. For our own practical purposes I think you could get as close to the stage of running off the whey with the hot iron test as is necessary.

Q. Does Mr. Bell think in testing greasy curd the hot iron is accurate?

A. I have my doubts about that. A greasy curd is very often deceiving. If you watch it before it gets greasy you can determine how to proceed, and if you allow the curd to get greasy then the hot iron test is not very reliable.

Q. Do you think the alkaline test would be much more accurate in a case of that kind ?

A. As I said before I have not had much experience with the alkaline test.

Mr. Derbyshire: I think you had better go right ahead and get that experience pretty soon.

A Member : There is one point in the alkaline test that has been overlooked, and that is, that makers could help one another very much by using that test: as in the hot-iron test what one might class as 1-4 another might call 1-2.

Mr. Barr : Probably half the makers who are here this morning were not here yesterday when this matter was discussed fully by Mr. Publow. The curd will get in such a condition that you do not know where it is with the hot iron test. Last summer some of the makers could only

get half an inch in one-half an hour after dipping, and when we tried it with the alkaline test we found it had too much. With the alkaline test you can tell any minute just where it is.

Mr. Steinhoff : I highly appreciate the fact that we have with us Mr. McKergow, who is one of the best judges of cheese in the business, and who has had a very long experience. I think the decision of the Judges ought to be discussed. It is not generally understood by the cheesemakers in the West what is meant by what the Judges describe as seamy color, as an objection or defect, and I would like to ask Mr. McKergow if he considers it to be a defect. I understand that to be waviness in color. Where you get a cheese a dead white you would not have waviness or seaminess.

Mr. McKergow: I do not think Mr. Steinhoff quite understood the point. I didn't mean the wavy curd; that is where you have the amber and the white curd in the same cheese mixed together; that is what I call a wavy cheese. In this case it is a seamy cheese, a little white thread seems to run between the lumps, and it is a defect. It didn't seem to affect the texture or the flavor, but it is a defect and it affects the market value of the cheese. This amber color is very distasteful to the London market, where they want white cheese. I do not feel competent to tell you why this wavy cheese occurs. Mr. Publow's idea was that the starter was the cause of it.

T. B. Millar : At what time of the year did you find most of this cheese ?

Mr. McKergow : Last half of September and also some in October.

Mr. Steinhoff: I am pleased to have this statement from Mr. McKergow, because he knows so well the requirements of the English trade. If the average buyer were to criticize the cheese on that point it might be said he was carrying things to the extreme. I would also like to ask Mr. McKergow if he thinks you could have a cheese of a white color and have a perfect cheese ?

Mr. McKergow : In some markets they require a dead white cheese, and they pay more for them. Manchester especially calls for a dead white cheese, and the same with their butter. All markets now demand a rather white cheese.

Mr. Barr : You get that cheese from Brockville?

Mr. McKergow: Of course, Brockville is close to Montreal, and they try to make a cheese that will always give satisfaction, and I think, without any disparagement of any other section, that the Brockville section stands at the top.

A Member : Did you ever find this streakiness in summer cheese ?

A. We did not find it to a great extent. As soon as we found it coming in the Eastern cheese we at once took measures to obviate it. I do not think we found so much of it in June cheese or in the first half of July.

Q. Don't you suppose the cool-curing has something to do with that streakiness in the cheese ?

A. No. I do not think the cooling of the cheese is at all responsible for that.

Mr. Steinhoff : In your opinion, how does the flavor in Western Ontario compare with the cheese in Eastern Ontario, Brockville, and Belleville on an average ?

A. I do not know that I could answer that question. Of course we get magnificent cheese from all sections. The average quality of Canadian cheese has marvellously improved during the last year, especially in the East. Mr. Ruddick will show you the very great advantage of the cool curing system. Of course, in the East we have a very great advan-

tage over the West, because all the markets from Belleville east ship their cheese into Montreal every week without fail, and they come in ten or twelve days old, and are immediately put into cold storage warehouses, so that they have an advantage over you in the West, where you hold the cheese longer in the factories.

THE COOL CURING OF CHEESE.

By J. A. Ruddick, Chief of Dairy Division, Ottawa.

It has been known in a general way for many years that when Cheddar cheese is exposed to the extreme heat of summer during the period of curing or ripening, that there is more or less deterioration in quality, and some unnecessary loss of weight, but it required the experimental results of the last four or five years to show how serious is the injury to the texture and flavor of cheese, and how much is really lost in weight, when the temperature in the curing room is allowed to go too high. We now know that certain undesirable characteristics and defects in the quality of summer cheese, which were considered at one time to be inseparable from the hot season, can be almost, if not wholly, avoided, if only proper precautions are taken. The investigations along this line have taught us also that the maximum temperature at which cheese may be cured without injury to the quality is very much lower than was commonly supposed, and further, that the minimum temperature at which proper curing will take place is a great deal lower than anyone imagined possible for securing good results. Babcock and Russel have cured cheese at temperatures ranging down to below the freezing point of water, and their work, along with that of VanSlyke, Dean and others, proves beyond any doubt that cheese may be cured at temperatures as low as 40 degrees Fahrenheit, or even lower, with most excellent results, as far as the quality of the cheese and the saving of shrinkage is concerned. The employment of such low temperatures is generally referred to as "cold curing," and if I may be allowed to draw a line of division, I would say that all cheese cured at temperatures under 50 degrees might be called "cold cured," to distinguish them from those cured at temperatures ranging from 50 to 60 degrees, which are more properly described as "cool-cured" cheese. At first sight this may appear like making a distinction without a difference, but if we examine the question we shall find that there is sufficient reason for making the two classes. The cold curing of cheese introduces entirely new and altogether artificial conditions, because under no circumstances has a natural temperature as low as 40 degrees been employed for the curing of Cheddar cheese. It entails heavy expenses for refrigeration, and as it takes from 5 to 8 months to properly cure the cheese at this temperature the length of time that the producer would have to wait for his money is something that has to be considered. On the other hand, the cool-curing of cheese is simply an attempt to create conditions, at all seasons, similar to those existing naturally when the very best results are obtained. It has always been considered that the finest quality of Canadian cheese is produced during the months of September and October, when the average temperature ranges from 55 to 63 degrees through the cheesemaking sections of Canada. The Cheddar cheesemaker's ideal is, however, the best of the English and Scotch makes, and it is on these cheese that the taste for Cheddar cheese has been cultivated. It is worthy of note that the average temperature of the English and Scotch curing rooms is not over 60 degrees. The cool-curing of cheese, therefore, does not introduce any

new conditions, nor does it involve any expense that will not be fully met by the saving in shrinkage, to say nothing of the improvement in quality. Furthermore, it requires only about a week longer at a temperature of 55 to 60 degrees to produce the physical change which we call "breaking down" as compared with the length of time required in ordinary uncontrolled temperatures, which may range as high as 80 to 85 degrees. It would appear that the checking of the ripening process is proportionately much more appreciable after the temperature is brought below about 55 degrees, than it is down to that point.

It is along the line of cool-curing that the Department has been working for some time. During the seasons of 1899 and 1900 an extensive series of experiments were conducted at the Carp Cheese Factory under Prof. Robertson's direction, and the information thus collected has been freely circulated among those interested in such matters. On several occasions samples of cheese from the same batches, but cured at different temperatures, have been submitted to the Montreal buyers and other experts, and in every case they have pronounced the cool-cured cheese to be superior in quality to the ones cured at ordinary temperatures. The difference in value has been placed as high as 1 cent per pound. The question of improvement in curing rooms and kindred topics have been much discussed at meetings and through the press for two or three years past, and the advantages to be derived from such improvements have been clearly set forth, yet there has not been as much progress made in this direction as there ought to have been, and it seemed as if something more was necessary to convince those engaged in the manufacture of cheese that it is a matter of economy, if nothing else, to spend sufficient money on the improvement of curing rooms to ensure proper control of temperature at all seasons of the year.

Central Cool-Curing Rooms.

With the object of providing a practical working illustration, on a scale sufficiently large to attract general attention, and to get a comparatively large number of people directly interested in the results, Parliament was asked last Session to vote a sum of money to be used in constructing four large central or consolidated cool cheese curing-rooms.

It is generally known that this plan was carried out, and that curing-rooms were built at Woodstock and Brockville in Ontario and at Cowansville and St. Hyacinthe in Quebec, where sites with siding accommodation, were given by the Grand Trunk and Canadian Pacific Railway Companies. My main object in appearing before you to-day is to briefly describe these curing-rooms, and to give you some notes and observations on the results of their operation during a part of the season of 1902.

In describing the buildings I may say first that the temperature is controlled with refrigerating machinery at Woodstock and Cowansville, while ice is employed at Brockville and St. Hyacinthe. The buildings are all designed on one general plan, but where ice is used there is a separate chamber in which it is stored. The curing room proper consists of a basement 9 feet clear between floor and ceiling, and a little over half below the ground level. The stone walls, which do not rise above the surface of the ground, are laid with cement mortar to make them waterproof. The floors are constructed of the best quality of Portland cement concrete. The walls above the stone work consist of 7-ply of lumber and 8-ply of paper, 4-ply of which are damp-proof quality. The last two courses of lumber on the inside, with damp-proof paper between, are continued down to the floor inside the stone wall. There are two one-inch air spaces besides the space

between the studs. The ceilings underneath the joists are made of 4-ply of lumber, 4-ply of paper and one air space. Above the joists there is a double flooring with 2-ply of paper. The spaces between the studding and joists are filled with planing mill shavings.

The ice chamber is placed at one end of the building, but does not go below the ground level, which brings the floor of this chamber about 4 1-2 feet above the level of the floor of the curing room. The insulation of the ice chamber is rather better than that of the curing-room, and differs in two respects. (1) the walls are constructed with "staggered" studding, that is to say, there are two rows of studs, one for the inside sheeting and the other for the outside, leaving a space between the sheeting of one foot with no connecting pieces. The ceiling is made in the same manner, and the spaces between the inside and outside sheeting are all filled with planer shavings. (2) The concrete floor of the ice chamber is covered with three inches of dry sand. Above this there is a false floor resting on 2 x 4 joists. The lower edge of the main joists is about six inches above the top of the false floor. The main floor consists of two inch T. & G. lumber covered with galvanized iron, which is flashed along the walls to a height of ten inches. The space between the floors is filled with shavings.

The upper story of the building is not insulated, except a compartment used for boxing and shipping. The rest of this flat is utilized for office, receiving room, storage of boxes, experimental rooms, etc. The floor of the shipping room is on a level with the floor of a railway car standing on the track alongside.

The plan for utilizing the cooling power of the ice is simple and effective. Placed just above the floor level of the ice chamber and, therefore, about 4 1-2 feet above the floor of the curing room, are three openings, 18 x 9 inches, through which the cold air flows into the curing room. The warm air returns to the ice chamber through three flues, 18 x 9 inches, running the length of the curing room just under the ceiling, and rising to the top of the ice chamber. There are several openings in these flues, which, being fitted with slides, enabled those in charge to regulate the temperature so well that it did not vary two degrees from day to day in any part of the room. The ice is not covered, so that the air passing over it is readily chilled and purified and dried to some extent. The insulation of the chamber is depended on to prevent waste of ice.

The mechanical refrigeration at Woodstock and Cowansville is effected with six ton vertical, double cylinder, single-acting ammonia compressors of the Linde British type, using the brine tank system for cooling. There are two of these tanks, 15 feet long, 3 feet deep and 1 foot wide, placed near the ceiling about the centre of the room. A wooden casing surrounds the tank with openings at the top and bottom, through which the air circulates. The tanks are filled with a saturated brine that is chilled by direct expansion pipes submerged in it. The advantage of the tank system lies in the reserve of cooling power which is provided after the compressor is shut down.

The size of the curing room proper is 60 x 42 feet, and the five tiers of shelves hold exactly 2,700 cheese and leave room for storing several hundred more in boxes, but having the cheese of so many factories to keep separate, it is not practical to fill the shelves all full. The temperature of the curing rooms was kept constantly between 52 and 58 degrees as long as they contained any cheese. There was not the slightest difficulty in regulating it so that it did not vary more than one degree from day to day. The records of temperature, both in the cool rooms and in the warm or uncontrolled rooms, were kept by means of thermographs,—instruments which

give a continuous record on paper, so that we know exactly what the temperature was at any time of the day or night.

I need not go further into details of construction, as a bulletin with complete plans and specification, such as will enable anyone to make use of the ideas incorporated in these buildings, is now in the printer's hands, and will soon be available for distribution.

Having said so much by way of description, it will now be in order to refer briefly to the plan of operation, and I cannot do better in this connection than by giving the form of agreement between the department and the salesmen of the factories, covering the reception of cheese at the curing-rooms.

DOMINION OF CANADA.

DEPARTMENT OF AGRICULTURE.

Commissioner's Branch.

Cool Cheese Curing Rooms.

Cheese will be received at the.....Cool Cheese-Curing Rooms on the following conditions :—

The Department of Agriculture will undertake—

(a) *To* collect the cheese free of charge to the factories ;
(b) *To* issue Warehouse Receipts for the cheese as received ;
(c) *To* store and take care of the cheese during the period of curing, without any charge except as hereinafter specified, for a period not exceeding eight weeks.
(d) *To* keep the cheese fully insured ;
(e) *To* provide boxes of good quality, box the cheese and ship them according to instructions received from the salesman.

The factories will be charged the usual price of good, ordinary cheese boxes delivered at the factory, and the cost of scale boards, nails, etc., used in preparing the cheese for shipment.

The Department of Agriculture will charge each factory a sum equal to the value of the weight of cheese saved on account of less shrinkage in the Consolidated Curing-Room, the amount to be determined by actual tests of shrinkage on the cheese of every weeks' make and the selling price. The factory will have full benefit of any increase in the price of the cheese per lb. owing to the improvement in quality.

The Superintendent will not accept any cheese of inferior quality, poor finish or in unsuitable condition.

The Department reserves the right to refuse the cheese from any factory which fails to comply with the requirements or rules of the Cool Cheese-Curing Room.

The cheese are to continue the property of the factory, and to be at the disposal of the salesman.

J. A. RUDDICK,
Chief of Dairy Division.

OTTAWA, April 8th, 1902.

Approved. (Sgd.) JAS. W. ROBERTSON,
Commissioner of Agriculture and Dairying.

On behalf of the..... I accept the above conditions for cheese delivered at the Government Cool Cheese-Curing Room at.....
.....
Salesman.

.....
Date.....190 .

The curing rooms were not ready for use until the first of July, but from that time until the 30th of September, cheese were received every week day, until the latter part of September, when they were collected only every second day. During these three months, 26,531 cheese from thirty-seven (37) factories were handled at the four places, divided as follows :

	Factories.	Boxes.
Woodstock	9	11,657
Brockville	10	6,644
Cowansville	14	6,266
St. Hyacinthe	4	1,964
	37	26,531

If cheese had been received from the middle of May the number would have been nearly 40,000. The factories from which the cheese came are all located within above ten miles of one of these curing rooms, and practically all the factories within that radius joined in the scheme. In fact, the only difficulty experienced in this connection was that the applications of several factories had to be refused. The number received at St. Hyacinthe was smaller than what was expected, because several of the factories in that district made butter instead of cheese. The capacity of the Woodstock curing-room was rather over-taxed, handling 11,657 cheese in three months, while the others might have taken care of a few more. About 100 cheese per day or between 11,000 and 12,000 cheese during that part of the season when cool curing is beneficial, about represents a good working capacity of these establishments. Special boxes were provided for carrying the cheese from the factories to the curing rooms. Two kinds were tried, one made of tin and other of wood like an ordinary cheese box, only of heavier material and more strongly made. (Boxes shown.) The wooden ones were found to be the most satisfactory, and cost only about one-third of what the tin ones did. They were made to fit the cheese snugly, and as for durability, I may say that out of 400 in daily use for the three months, not more than half a dozen have been broken.

The Saving of Shrinkage. As the cheese were collected from the factories, a number from the same vat from all the factories were set aside each week, and after being carefully weighed to two ounces, one was placed in the curing room and the mate to it was put in a room in the upper storey, where the temperature was not controlled. When the cheese of the corresponding week were sold, these cheese were again weighed as before, and the difference in shrinkage noted. From this difference the saving in shrinkage on the whole lot was easily calculated. Table I gives the details of shrinkage and temperature for three typical lots.

TABLE I.

	Date weighed.	Cool curing room. Weight.	Cool curing room. Loss.	Cool curing room. Temperature.	Uncontrolled room. Weight.	Uncontrolled room. Loss.	Uncontrolled room. Temperature.	Shrinkage saved.
		lbs. ozs.	lbs. ozs.	deg.	lbs. ozs.	lbs. ozs.	deg.	lbs. ozs.
Lot 1...	Aug. 9th	80 2	.....	54—56	82 0	.....	61—77	0 8
	Sept. 8th.	78 6	1 12		79 12	2 4		
Lot 2..	Sept. 12th.	81 12	.....	52—56	82 0	.....	50—72	1 12
	Oct. 11th.	80 4	1 8		78 12	2 4		
Lot 3..	Sept. 13th.	85 4	.....	52—56	83 4	.....	50—72	1 10
	Oct. 11th.	83 8	1 12		79 14	3 6		

Table II shows that the actual saving of shrinkage on all the cheese.

TABLE II.

——	Cheese.	Lbs.	Percentage shrinkage saved.	Amount saved.	Value at selling price.
				lbs.	
Woodstock	11,657	906,560	1.58	14,327	$1,424 13
Brockville.....	6,644	526,950	1.52	8,050	814 48
Cowansville	6,266	494,296	1.34	6,640	662 02
St. Hyacinthe	1,964	143,190	1.66	2,386	238 41
Totals	26,531	2,070,996	1.51	31,403	3,139 04

If these figures are raised to what they would be if operations had been commenced at the middle of May, the value of the saving in shrinkage would be something like $4,500, and this sum represents the interest at 6 per cent. on $75,000, or in other words would provide for a capital outlay of over $2,000 for each of the 37 factories. This is certainly a low estimate, because, as every one knows, the past season was remarkable for the very cool weather and moist condition of the atmosphere which prevailed all summer. In an ordinary season the saving of shrinkage would be very much greater, because a high temperature and a dry air are the two conditions that increase the shrinkage.

Improvement in Quality. But the saving of shrinkage is only a minor consideration. The main one is the great improvement in quality. Altogether 480 pairs of cheese were set aside as already mentioned for testing the shrinkage, one being cured in the cool room and the other in an uncontrolled temperature. These cheese are still in the possession of the Department, having been bought from the factories when sales were made. They have been examined and compared by a large number of cheesebuyers, cheesemakers and others, and in every case the cool cured cheese has been pronounced the best in quality. Out of something over 500 lots of cheese sold out of the four cool curing rooms, I have only heard of two lots of which there was any fault with the quality. In one of these cases the cheese were sour, and in the other they had a bad flavor even when freshly made. There was some complaint about mould on the cheese at first, but this is another matter, and does not effect the question of cool curing.

The Effect of a High Temperature on the Quality of Cheese. Having the cheese from 37 factories to deal with, there were many opportunities for observing and studying the effect of a high temperature on the quality of cheese of different character.

The first effect of a high temperature, and one which is always noticeable, is to make the texture of the cheese rough and mealy, and in extreme cases show a greasiness which is undesirable, or in other words, it destroys that silkiness of texture always present in cheese at its best. Bad flavors are intensified at the higher temperature, and many cheese go "off" flavor, while their mates that are cool cured remain sound and clean. All cheese become sharp and "tasty" much quicker at the high temperature. Of course cool curing will not make a fine cheese out of a poor one, but still cheese which are a little weak and open or on the other hand have a little too much acid, show up better when cool cured than they do when cured at ordinary hot weather temperatures.

Now this brings us to the question, what is a high temperature for curing cheese? Cheesemakers have, in the past, considered that their cheese were fairly safe as long as the curing-room was not warm enough to cause the fat to exude from them, and yet it requires a temperature of about 74 degrees to make the cheese show grease on the surface. It is not many years since 70 degrees was recommended as a suitable temperature for curing. Careful observation on this point during the past summer has convinced me that the injury begins to be apparent as soon as the temperature goes above 60 degrees. As a matter of fact, the temperature in the ordinary room at the Brockville curing room went over 74 degrees only on 16 days during the summer, and only on two days did it reach 80 degrees. For the rest of the time it averaged about 70, until the last half of September, when it varied from 60 to 70. This record is very low, and in an average summer it would be about 10 degrees higher, but I mention it to show that the difference in quality and the saving of shrinkage

which I have already quoted, is simply the result of curing cheese on the one hand at a temperature considered about right a few years ago, and comparing them on the other hand with cheese cured between 55 and 60.

Mould on Cheese. Some difficulty was experienced at first in preventing the growth of mould on the cheese, owing to the excessive moisture. There can be no ventilation without bringing air in from outside, and to do so when the outside air is warmer than that inside would only make matters worse, inasmuch as warm air that may be relatively dry, will, when cooled sufficiently, reach the point of saturation, and deposit moisture just as we find the dew on the grass in the morning when a cool night follows a warm day. Under ordinary circumstances, if the warm summer air is cooled down to 55 or 60 degrees, it will become saturated with moisture; therefore it is not only useless, but highly undesirable to have a cool curing room ventilated except when the outside air is cooler than the inside. Of course there is always some outside air introduced into the best constructed buildings, but the chief source of moisture in these cool curing-rooms with their good insulation was the evaporation of water from the cheese as they dried out in the curing. Our records show that 14,000 lbs. of water, as represented by the shrinkage, was evaporated from the cheese in the Woodstock curing room during the three months of its operation.

The remedy for excess of moisture in a cool curing room is rapid circulation of air, through the room and over the cooling surface, where the excess of moisture will be deposited. When the circulation is poor the moisture hangs around the cheese from which it evaporates, and thus makes a condition favorable for the growth of mould. The ice cooling system provides for circulation, and as the air passes over the ice it is chilled and thus loses part of its moisture. In this way the large quantity of water coming from the cheese is constantly being disposed of. The relative humidity of the Brockville curing room remained fairly constant at 88 per cent., and the cheese began to show signs of mould after being there about a week, just as they do in many of the cheese factories.

It is desirable that the cheese should be free from mould, and we do not look for any trouble on that point hereafter. There is always a tendency for mould to grow in a new curing room, and it is not likely that we shall have another season for some time with as high relative humidity in the atmosphere as there was last summer. Moreover, some measures are to be adopted to ensure the cheese being drier on the surface when delivered at the curing-room. It was noticed particularly that certain cheese that were delivered to the curing rooms with wet surfaces were always first to show signs of mould.

The Cement Concrete Floor. The cement floor is an essential part of the plan of these cool curing rooms. It necessarily lies on the ground, and being a good conductor of heat, its surface has a constant temperature of about 50-58 degrees, according to locality and the character of the earth immediately underneath it. Having these qualities, it requires no argument to show that the cement floor is a great aid in maintaining an even temperature of 55 to 60 degrees in any room where such construction has been followed. It would appear to be a very fortunate thing that the cool cheese curing temperature and the natural temperature of a cement floor are so close together. As an evidence of how the cement floor keeps the temperature down in a well insulated room, I may state that the cool air from the ice was not turned on at the Brockville curing-room until July 8th, and the temperature never went above 60 degrees, although it went as high as 76 in the room upstairs, and about 1,000 warm cheese had already been placed on the shelves up to that date. On the other hand, the temperature in this

curing room did not go below 50 until November 22nd, when it gradually dropped without fluctuation, to 42 degrees on December 10th. On the same date the thermograph in the room upstairs registered 10 degrees, and the outside temperature was 20 below zero. After this cold dip, the temperature in the curing-room rose again gradually. This is not important except in showing the controlling effect of the cement floor. In future construction of cheese factories and creameries there should be no question about putting in cement floors, for all purposes except in butter refrigeration, when the concrete requires to be insulated.

In Conclusion. Before concluding these remarks I may be permitted to make some observations of a general character bearing on this question.

One cannot help thinking what great benefit would accrue to the Canadian cheese industry at large, if all the cheese were cool cured. Indeed it is doubtful if anyone can properly estimate it. We have in the past season a most excellent illustration on this point, inasmuch as the comparatively slight improvement in quality due to the unusually cool weather which prevailed all summer, had the effect of encouraging consumption to such an extent that the demand forced prices up to a point that few ever expected to see again. The situation suggests possibilities in the future of the industry that are certainly very encouraging.

In regard to the central or consolidated curing room idea, I would like to point out that the Department does not urge the general adoption of this scheme. I have already mentioned the reason for the establishment of those now in operation. If they are the means of convincing those engaged in the trade of the necessity for adopting some plan of cool curing, their object will have been attained. The desired result will probably be reached in different ways, according to local circumstances and conditions. The larger cheese factories will, I think, be inclined to make the necessary improvements in connection with their own buildings. Already a number are preparing to do so.

Combination, or consolidation, may be effected in some cases, but the jealous rivalry which exists among factories stands in the way. It is quite probable that the exporters themselves may in the future have something to do with the curing of some of the cheese. At any rate, time will decide how it is to be done, and the question of the hour is,—that cool curing must be arranged for somehow.

I see one obstacle in the way of getting improvements made in proprietary concerns, and it is this. Nobody needs to be told that any saving of shrinkage or enhanced value in the cheese will go directly into the pockets of the patrons, and very little of it will stick to the fingers of the manufacturer. It is hardly fair, therefore, to expect the man who owns a factory to met all the expenses of these improvements, from which he will receive no benefit, especially in view of the fact that the commission which he receives at present is not sufficient to provide decent buildings and proper equipment, and at the same time leave a reasonable margin of profit. If patrons desire this increased revenue, and there is no doubt they do, they must be willing to make concessions to the factory owner to get it. My advice to patrons of cheese factories is to pay a good price for making, and then demand the best possible service in return. Let them make it their business to see that the buildings and equipment are up-to-date in every respect, and insist at the same time that sufficient salary is paid the cheesemaker to secure a first-class man, and thus they will help to remove from this great business the standing reproach,—of paying the poorest wages to its skilled mechanics of any business in the country.

Prof. Robertson : Why do you insulate the ceiling and not the floor ?

Mr. Ruddick : The idea of using the cement floor in the curing room is, that we are trying to maintain a temperature of about 55 degrees to 60. The natural temperature of the earth on which the flooring lies is just about that temperature.

It is a very fortunate thing that the temperature of the earth comes so near to what we are aiming at in the curing of cheese. A concrete floor is a good conductor of heat. If the room is warmer than the earth underneath, the concrete floor will absorb the heat and give it off to the earth below, so that the floor itself helps to keep down the temperature. In Brockville the cold air current was not turned on till the 8th of July, when about 100 warm cheese were put in. To-day the temperature of these rooms is about 40 degrees without any fire, and we have had a temperature of 20 below zero.

A Member: Was that temperature of 60 without ice ?

Mr. Ruddick : Yes, up to the 10th of July. After the temperature of the room gets below that of the earth beneath, the concrete acts as a heater and helps to keep the room warm. I find it difficult to make people understand that because a concrete floor is useful for getting the temperature as low as 58 or 60 degrees, it is not useful for a lower temperature. Where you are trying to maintain a temperature of 38, a concrete floor is undesirable unless it is well insulated on top.

Mr. Steinhoff : That shrinkage is got at by a comparison of those stored in a higher room; did they vary ?

Mr. Ruddick : Yes, the temperature in that room varied just as it does in the ordinary curing rooms, all the way from 55 to 65 degrees.

A Member : How about the light ?

Mr. Ruddick : There is a window between each row of shelves on one side,—a small window about two feet square.—and on the other side there are just half as many windows, and one window just opposite the passage way. The windows are double sashed and double glazed, and a tight board shutter on the outside.

A Member : Are these cheese taken out of the hoop, and sent to the curing rooms immediately ?

Mr. Ruddick : Our practice last summer was to take them out of the hoop and take them to the factory the next day, I think we shall modify that a little next summer because by experiments we find the cheese can be kept one day without injuring, and they will dry out some, and there will not be the same tendency to mould.

Mr. Millar : In filling your ice-house what space do you leave around your walls and ceilings ?

Mr. Ruddick : I did not leave any at all. There will always be a break at the top after the last layer is put in. We pack the ice as tight as possible.

Q. What about the bottom ?

A. There is a rack made of two by four scantlings. In the bottom of the chamber the scantlings are put quite close together leaving only about three inches between. The scantlings run the long way of the chamber so that it is easy to move the ice along.

Q. Where the gutter from the drips goes through the wall, how do you insulate that ?

A. That goes down through the floor, and there is a trap so that there is always some water in there to prevent the air coming up. That is very important. These plans, that we will publish in the bulletin, will give all the details, and I think they will be very helpful to you. Now we have an architect employed making the plans for cheese factories of different sizes,

combination factories including this idea of the cool curing-room, and these will be ready in a short time. They will be in a form of complete working plans and specifications and each giving the quantities of the material necessary, and of information necessary to build a new factory, or to adapt the idea to a factory already in existence. Plans of the curing-room will be ready in ten days. Plans of these factories will take a little longer as they have to be printed at the printing bureau.

Q. Cheese held in the ordinary curing rooms for comparison were held about a month ?

A. Cheese in the curing rooms are at the disposal of the salesmen whenever they decide to ship. These test cheese were weighed, and all these figures were taken from these weights at that time, and are compared from time to time. Cheese were sold usually at the end of the month.

Q. I do not think it would be a fair comparison to hold them for a month, because cheese are not generally held in the ordinary factory for more than two weeks.

A. Those on the chart were specific cases, but the others were all taken according to the time the cheese were shipped.

Paraffining of Cheese.

I have some cheese that were paraffined, and they are here for your examination. One was cured in the ordinary curing room and the other in cold storage room. They are July cheese and were held for six weeks at an ordinary temperature, and since that time held in cold storage. I want you to note the very fat meaty body of these cold storage cheese. I do no say we should have cheese with so much moisture, but I want to emphasize that point, that there is a cheese showing the very rich body and yet is perfectly sound in flavor. This cheese was made on the 16th July. This cheese will be held here for your examination, and any person who wants to bore them or try them can do so. This chart gives you the result of the shrinkage of cheese paraffined and not paraffined. These four cheese were made in the same vat, and they were brought to the curing-room on Sept. 12. Two of the cheese were paraffined, one was put in the cool room, and the other put in the ordinary temperature. The other two were not paraffined, and one was put in each place; so that we have four cheese, two paraffined and two not paraffined.

Date weighed:	Cool curing room.		Uncontrolled room.	
	Waxed.	Not waxed.	Waxed.	Not waxed.
	Weight.	Weight.	Weight.	Weight.
Lot 1.	lbs. ozs.	lbs. ozs.	lbs. ozs.	lbs. ozs.
Sept. 12th	81 0	81 12	81 6	82 0
Oct. 11th	80 12	80 4	79 0	78 12
Shrinkage	0 4	1 8	2 6	3 4
Lot 2.				
Sept. 13th	86 0	85 4	85 12	83 4
Oct. 11th	85 14	83 8	83 6	79 14
Shrinkage	0 2	1 12	2 6	3 6

I do not think it is practical to paraffine cheese unless you have a cool curing room. I would not advise cheesemakers to try to paraffine cheese in

the ordinary curing room until along in the fall when the temperature is low. I am not advising it strongly at any time. I think we must go carefully in this matter before we adopt it. But it seems to me there is such a saving there that we cannot very well ignore it. These three cheese in front, were made on October 22. They were all kept at the same temperature in a cool curing room, one of them was put on the shelf without any paraffine. This one was paraffined about a week after it was made, and you see it does not show any marks of mould. This one was paraffined and put in this tin case and sealed up perfectly tight. The object in doing that was simply to see if the sealing up of the cheese would have an ill effects on the quality. We do not find that there is practically any difference in the quality of these three cheese. This cheese, that was put in the case, is a green curd cheese, yet as far as the flavor is concerned we can see no difference.

When we began paraffining first in the curing rooms, we had some difficulty, and we found the only way we could do was to paraffine just as they were received; but we know that is not right, because at that time there is a great deal of moisture on the surface of the cheese and that caused the wax to crack. When the cheese are freshly made they are soft, and elastic, and after the wax is put on you cannot handle them without creasing and cracking the wax. Then in a white cheese there is no rind yet forming, and that is where it saves cheese. If the wax is stripped off in the course of a week, or three weeks, the white cheese has a pale or sickly appearance, and a man using it for the first time would say it was sour, although it might not have any tendency towards that. The cheese should be left for a week or a little more, and then paraffined, and then you will get a solid close coating of wax. We have little of that amber color developed. These large cheese were made September 19, and paraffined September 26, and this one was boxed the day it was paraffined, and the other one boxed a month after, and we find that the cheese that was handled in the boxes came out better than those that were left on the shelves. Handling the cheese in the boxes does not affect the paraffine as much as it does when they are handled on the shelf, and there is less mold. The paraffine cheese showed a lot of mould, but on examination you will find the mould is on the boxes and not on the cheese, it cannot grow on the paraffine. If your cheese is paraffined when perfectly fresh sometimes the mould will form, but if they are dry there will be no moisture and no mould.

Mr. Millar : Your conclusion is that it is better to save shrinkage in the cold curing room than to try to save it by the use of paraffine in the ordinary curing room.

Mr. Ruddick : Undoubtedly.

A Member : Is there anybody here who has had experience in shipping paraffined cheese, and who can tell us what satisfaction it has given to the importers on the other side?

Mr. McKergow : We have had a good deal of experience in shipping these paraffined cheese, and I have retained some in Montreal for the purpose of seeing how they came out. We have shipped them regularly, and with one exception, we have had no complaint. One man did complain and cabled us not to ship any more. I think the first experiments made were probably defective. They were put on a warm steamer, and the paraffine sealed off and mould came on, and they did not make a very handsome cheese. Some of the boxes I kept in Montreal. I kept one lot of three hundred boxes since September, and they were weighed last week, and the loss in weight was very small, not over half a pound to the box. Of course we did not experiment like Mr. Ruddick and weigh to the ounce, but in ordinary

circumstances the loss would have been from a pound to a pound and a half. All our cheese are kept at a temperature of 38 to 40 degrees. I think Mr. Ruddick is on the right track. There is no doubt curing cheese at a cold temperature is absolutely necessary. We know that positively, but with the paraffine we have to go a little slow. I have sent paraffine cheese to eight or ten different importers in England, and we have only one complaint.

Prof. Dean : I should like to refer to some experiments that we made last year on paraffining cheese. We started to make these experiments first in 1898. The cheese were not satisfactory where they had been cured in the ordinary curing-room. The paraffine cracked and the cheese moulded badly, and I think they were the worst looking lot of cheese we had in our curing-room, so we could see no advantage in paraffine. Last year there was a revival of interest in the question of paraffining, and we continued our experiments, and briefly our results were as follows :

Paraffine reduces the shrinkage on the cheese. Cheese weighing an average of 38 lbs. paraffined directly from the press lost nothing in weight. Those paraffined at the end of a week lost .78 per cent., a little over 3-4 per cent. Those paraffined in two weeks lost, 1.7; those paraffined at the end of three weeks 2.36, and those not paraffined 3.16 per cent. They were cured in the ordinary curing-room, and, again, I can see no advantage in the appearance of the cheese paraffined. It did not stop the growth of mould, although they did not mould quite as much as those unparaffined, but they had fully as bad an appearance.

Then we paraffined and put the cheese in cold storage, and I quite agree with Mr. Ruddick, that if paraffining has got to be done it must be done in connection with cold storage and paraffined directly from the press. There was no loss in weight. Those that were not paraffined lost over 2 per cent., and I do not think, as Mr. Ruddick has said, that at the present time we are prepared to recommend cheesemakers to paraffine the cheese. I would advise you to go slow in connection with the work. With certain kinds of cheese, such as a small cheese that loses very rapidly in weight, it might be an advantage to paraffine them, but for the ordinary cheddar cheese made at the present time, I can see little or no advantage in paraffining, and I would not advise any maker to go to the expense of paraffining his cheese until we find out more about it. (Applause.)

MODEL DISTRICTS.

By G. C. Creelman, Toronto.

It is always a pleasure to meet with a body of men composed of the members of the Western Ontario Dairymen's Association. Last week I had the pleasure of meeting the Eastern Dairymen, and wherever I meet a crowd of dairymen I find they are jolly good fellows, and at the same time out for business

My position this afternoon is rather as a representative of the Department of Agriculture, and we are here in this capacity to see how we can assist the dairymen of Western Ontario to make a better product. It has never been the policy of the Department to interfere in any way with any of the Agricultural Associations in the Province of Ontario. It has always been the policy of the Minister of the Department and of all its officers to give every Association as wide and full a scope as possible, to give them just as much liberty as they will take, and as much responsibility, so long as they keep within the bounds of the Act covering such Association. I am

not out in the capacity of an inspector, but simply to tell you something about what the Department is doing.

We believe that a school teacher cannot do justice to one hundred or one hundred and fifty pupils, and we believe, at the same time, that an instructor or inspector at cheese factories cannot do justice if he be given one hundred or one hundred and fifty cheese factories to look after; hence we thought we would try the experiment of giving each inspector a small number of factories under the direction of your Association, and I am very pleased to say that the experiment has been a decided success. It was thought by some of the Directors of the Eastern Association that we were spoiling the owners of factories by giving them free instruction last year, and that this year when we ask them to pay for it they will say "You gave it to us free once and we want it again"; but I am pleased to say that that narrow spirit has been entirely wiped out, and that if the instructors can be supplied they are willing to pay. Of course you will find some men who will not take kindly to public instruction, and who will not take kindly to any new invention that is brought out. You all know that all our great inventions started with a small beginning, and, as a rule, with the most adverse criticism, and with the utmost opposition. In this matter we will not be compelled to go slow, because the Directors of the Eastern and Western Associations in counsel with the Minister decided they were going to materially increase the staff of instructors the coming season, and to devote a large part of their funds and time to personal instruction in our factories; and the work is going to go on with leaps and bounds, and I hope that in the very near future you will be able to see in every locality the results of this individual work. The instructors we send out must be superior men. They must have tact enough to handle the owners of the factory. They must show the owner of a factory that he has a responsibility, and no matter how good he may be, unless the owner feels his responsibility and is prepared to make the very best equipment he can, and prepared to make the surroundings of the factory clean and attractive, it is impossible for the instructor to good and effective work.

In the second place, the instructor has to deal with the man immediately in charge of the factory—the maker himself. The instructor has to use a great deal of tact, and I find from the reports that we have a couple of men who have very good judgment. In some places the factory men will say "We do not want you around here at all, I am an older man than you are; I have been making cheese twenty-five years,and I know more about this place than you do. You cannot help me, and you are only going to be in the road, and a nuisance." That was said this year where a first-class instructor went to a factory for the first time. If that instructor had not had tact to handle that man he would have said "All right, there are enough cheese factories in the country wanting me without my insisting upon coming to you;" but instead of that he said to himself, "There are some things this cheesemaker knows that I do not, and I know some things that he does not know; and may be I can help him and he can help me." So he said to him, " Are you having any difficulty at all ?" and they got into conversation and became good friends. In that way the cheesemaker saw that the instructor was not going around to show him how to run his business, so he asked his advice about certain things. The cheesemaker broke down his reserve, and said "There are one or two of my patrons I cannot reach who are not sending good milk, but they are good fellows, and I am not the kind of fellow to go and talk to them." The instructor at once saw the clue, and went to these farmers and found out that the farmers were not doing what they ought to do, and it was not six weeks before this cheesemaker entirely

changed his mind about instructors, and wrote to us to say that he hoped that individual instructor would be sent back for the next year. Last year we tried the experiment of having local conventions. Your Directors appointed from among themselves six men to attend certain farmers' gatherings, and had associated with them one of our Institute workers. They sent to several places in Western Ontario and held meetings, which were very successful indeed, and which did much good, and that work must be extended as far as possible so as to reach the individual farmers. The only criticism I had of these meetings was this : that the Directors arranged for too many speakers to attend the meetings, and therefore were not able with the funds available to hold as many meetings as they otherwise might have done. We find in Farmers' Institute work that two speakers are all that are required, and in many places one man will do. If you can get a man who can start discussion among the audience, and get the people interested and to take part in the discussion, the evening soon passes, and very effective work is done. If we can get suitable Instructors it may be possible to utilize them during the month of April, or the month before they go out on Institute work, together with one of your Directors. Let a Director and an Instructor go to one meeting, and if you have half a dozen or eight or ten of those teams going, you could cover a great deal of ground in the cheese and butter districts in two or three weeks. In that way you could employ your Instructors for a month longer, and they would get an experience, and would get in personal touch and acquaintance with the Directors of the Association with whom they were working, and at the same time would become acquainted with what the farmers wanted, and it would make them very much better men as Instructors. There is a great deal of difficulty in handling patrons. Farmers do not mean to be dishonest any more than any other people, and too often we charge them with being dishonest when it is purely a matter of ignorance on their part. Some of our most honorable men, if they have a railroad ticket from one station to another, and the conductor does not take it up, do not think it dishonest to keep the ticket, or not give up their fare to a street car conductor if he does not come around to collect it, and the average farmer believes that when he is sending milk to a factory where a lot of milk is gathered together he is not under the same responsibility as if that milk were going into his own churn, and he were handling the product from the cow to the consumer. There is that feeling, and we have to acknowledge it is human nature.

Then there is another feature of the work, and that is that the farmer does not seem to be able to appreciate his responsibility in the matter. He does not seem to realize that milk is a peculiar substance which is liable to all sorts of taints and odors, and will take in all sorts of influences from the outside which pure water will not; and, not being a scientist or a chemist, he does not seem to think it is necessary to take much more care with milk than he does with his rougher foods. These things are against the Instructor when he goes to the farm. So we must go out into the highways and byways and teach this gospel of dairying to every creature, and we must go to the individual farmer whether he wants us or not. We must have co-operation and coercion. We had an illustration this year in the case of a farmer who had never seen an Instructor before. When the Instructor drove up to his gate the farmer said, "What do you want ?" The Instructor said, "I understand your milk is not as good as it ought to be, and I want to see if I can help you improve it." The farmer said, "Look here; my milk is just as good as any other man's milk, and I do not propose for a man to come here and tell me things that I know a good

deal more about than he does." If the Instructor had gone away with that, the result would have been that the man would have gone on in the same old way. But the Instructor said, "I think I can help you to make more money on your farm," and the farmer said, "That is a different proposition." "I think you are a good practical farmer from all I can learn, and I think you have made money on your farm, and while you have been doing all these things, you have not been able to look as closely as you ought to the effect of ventilation of stables on the health of cows, so as to make the most possible out of them. I understand you have a lot of good cows, I would like to see them," and when we saw the stables they were in, he said, "You have a lot of good animals, you must have used good judgment in the breeding of them, and good food in raising them, and you must have used first-rate management to get them up to the state in which I find them, in spite of some of the hindrances I see here. Your stables are not in as good condition as the average stables in this county, and it will not take much to fix them up," and before the afternoon was over the Instructor had shown that farmer how, by the expenditure of $50, he could save from $100 to $200 in one season, and, at the same time, stand higher in the opinion of his neighbors. That man went right to work the next morning and fixed things up, and since that time he has been one of the best friends the Instructor has had. That is just an illustration of what we can do if we only go at the matter in a proper way. The beekeepers, the fruit growers, and all other associations have the same kind of trouble to contend with. Last year we had twenty-four thousand, eight hundred and ninety-five farmers go out to the Farmers' Institute meetings and pay twenty-five cents for the privilege of joining the Institute. About one hundred and fifty thousand farmers were at the meetings, and these men who will get up from the back seats and walk forward and say, "I have got 25 cents worth out of this meeting," are the men we are helping; but the fellows who stay at home, and never go to a meeting, are still at home and making a product that is not what it ought to be, and injuring the product of those who will go out to the meetings. In conclusion I hope these small circuits can be extended, and it is the wish of the Department that it should be so that one Instructor will not have to attend to more than twenty-five or thirty factories, but will be able to visit each of them once a month, and able to hold meetings at the factories once a month, and go out and see patrons individually. When you can do that our product will pay, not a few millions more this year and a few millions more next, but many millions each year.

Major Alvord, of Washington, D.C., was again called upon for a few remarks, and said: It is entirely unexpected for me to say anything more to this Association, but I am here under orders, and I am too old a soldier not to obey, as long as my term of enlistment lasts. It is going to expire in about half an hour, and then I shall be my own master for a while. I could hardly say anything to you except to follow up the line of discussion of this afternoon, and it is the old, old story. We have the same propositions exactly all over the United States, of endeavoring to get at the source of your difficulties and at those who most need instruction and enlightenment, and it has been interesting to me as the generations before us had the same propositions to deal with. We thought we were the first to introduce co-operation in dairying, but we have been obliged to admit that we were far from that. Co-operation in dairying has been practiced in the old world for a great many years. Take the method of making the cheese in the Jura mountains, on the borders of France and Switzerland. There the peasants live in little hamlets, their cattle roam on the moun-

tains, and the cheese they make weigh from two to three hundred pounds each. They used to say they made them that size so they could roll them down the Alps and get them to market in an easy way. (Laughter.) The whole of the milk product of one little settlement or hamlet is made into a single cheese each day. They have one set of utensils for making the cheese for the whole village, which are carted from one hut to another. But they have only one cheesemaker for the village. There is a local law in the Jura region, which is 450 years old, and it makes the provision to which all the milk producers of the country are subject. The cheesemaker is the judge of the milk, and when he discovers that a certain man is careless he reports to the governing board of the village and that governing board communicates privately with the man that is at fault. The second time the same individual is guilty of carelessness a meeting is called of all the villagers, a public meeting is held, and then finally the member is brought publicly before them, and reprimanded. It was impressed upon him that he is injuring himself and all his neighbors, and if he is guilty of a third offence the man is almost expelled from the community, his milk is refused absolutely, and he is then without a market, and he will have to sell his cows and depart to some other place. That old law, made 450 years ago, commanded my admiration, and it occurred to me that, although we do not live in the same time as those people lived, it would be a healthy thing if we could have that law in our community at the present day. (Applause.) So that I say it is the same old story we are talking over, and let us hope that with the progress of time, and enlightenment, and the substitution we have in this period of moral suasion and appeal of the intellect over physical force, we may hope for steady progress, and the attainment finally of the ends which we seek.

NOMINATING COMMITTEE.

Moved by E. Agur, seconded by J. A. Williams, that the following be the Nomination Committee : A. T. Bell, Robert Myrick, S. P. Brown, W. A. Bothwell, J. A. James. Carried.

COOL CURING OF CHEESE.

By R. M. Ballantyne, Montreal, Que.

I believe it is admitted by all those who study the question at all that a small percentage of inferior cheese does such damage to the good name of Canadian cheese that the value of the whole product is affected, and although this section west of Toronto makes as a whole the best cheese that are made in any similar extent of territory, they are nevertheless interested financially in the improvement, not only of the product of this section, but of the whole Dominion of Canada. The past year has given us one of the most forcible examples of the value of an improved product, but the improvement in quality was brought about largely because of the unusually cool weather of the past season and not because of improved methods. As a result of the cool weather cheese were never seriously injured by heat at any time, and dealers universally say that the cheese of the past season were the best that have ever been shipped from Canada. As a result of the improvement in quality, consumption has gone on freely in spite of the fact that prices were higher than usual, and to day we find ourselves with one of the smallest stocks ever known at this season of

the year, and prices so high that very few men now engaged in the trade have ever seen their equal. If we could have weather conditions every year such as we had during the past year, it would without doubt add annually two million dollars to the value of Canadian cheese, and it would probably add a great deal more than this sum, for it would be necessary to add only one cent per pound to increase the value of a season's output by two million dollars, and my conviction is that if we could eliminate the poor cheese from our shipments, the value of those shipped would be increased in value much more than a cent per pound, but we cannot hope to have such favorable weather conditions every year, and in fact we know that such cool seasons come only about twice in a man's lifetime, therefore we must adopt artificial means of producing a cool atmosphere wherever cheese are.

The fault in cheese that causes the greatest amount of trouble is that of bad flavor. Cheese from all sections, cheese from any factory, made by any maker, are liable to become bad flavored to a greater or less extent if kept in a heated atmosphere. Sour cheese, porous cheese, hard cheese, cheese of any kind, suffering from the defects of manufacture, in addition to their other faults, are liable to develop bad flavors. In fact all kind of cheese are badly injured if subjected to a high temperature, and the adoption of proper methods of handling cheese after manufacture is the most important question this Dairymen's Convention has to consider.

During the past year the Dominion Government established four curing stations, from which, no doubt, they expected others would be established taking these as models. The results were no doubt to a very considerable extent satisfactory, and had the season been a normal one with the percentage of warm and hot weather that usually prevails, I am certain the advantage of cool curing would have been more marked. During the past year I have been doing a little experimenting of my own. I have taken the cheese of five factories for this purpose, and what I did was this : On Monday of each week, during all the summer months these five factories boxed up all the cheese they had in the factory and shipped to me at Montreal. I received them 24 hours or at the most two days after shipment, and put them immediately into cool rooms, where they remained for varying periods of time. If I had orders to store cheese for a customer I put these cheese on storing order, if I was without storing orders, I shipped them forward to a customer as soon as I felt they were ready for shipment, and the result in each case was entirely satisfactory. Some of the cheese that were stored have been shipped only recently, and they are in every respect more satisfactory than the cheese that had been held in the factory two weeks or more before shipment. They are cleaner in flavor and have a more meaty character. In fact, the cheese that were held several weeks on the shelves in many cases seem dry and brittle compared with them, and I wish to say that I believe the introduction of cool curing is the greatest advancement in the science of cheesemaking that has occurred within the past 20 years.

Curing cheese at a low temperature makes it necessary that the cheese should not reach the consumer as soon as by the old method of curing, and as a result increased accommodation for the carrying of cheese must be provided. If the accommodation is to be provided at the factories very radical changes must be made in the buildings and methods adopted. Many of the buildings as they are now constructed would be entirely unsuitable, so that it would be necessary to erect new ones, or remodel the the old ones to such an extent that it would amount to practically the same expense as the building of new ones; so that I feel that it would be unwise to urge the plan of providing accommodation at the factories, and

centralization seems to be the only feasible alternative, at the same time providing practically the same perfection of accommodation for all. If the necessary improvements are left to individual effort at the factories, it will be a long time before we can boast of any substantial advancement in uniformity of method, and I think that those who know the difficulties of the situation at the factories will agree with me that centralization is the only feasible method of accomplishing good results. To my mind the greatest difficulty in connection with the method introduced by the Dominion Government is the great cost and maintenance of a sufficient number of buildings to supply the requirements of the industry. Then there is the difficulty of getting a necessary number of factories to unite, provide the money to erect, and carry on the operations of this central curing-room; and if we make a false start resulting in failure or a considerable measure of failure, it will take a long time to establish confidence in any other system. I believe myself that the establishment of the central curing-rooms was a great mistake; that in their present form they will not be extended to any considerable extent throughout the country; that the failure to extend the system as introduced will be taken as evidence of the impossibility of introducing any system of central control, and instead of assisting, may discourage a forward movement that might otherwise have taken place by the adoption of other methods. I believe that as in this case, when the Government bears the whole expense of erecting buildings and assumes the full rsponsibility of management that it has a pauperizing effect, and that other buildings will not be erected by the people at their own expense. If we are to have a system of centralizing, we must give up the idea of putting cheese on shelves at these central stations, because they occupy too much space when shelves are used, and it would require the investment of an immense amount of capital to provide a sufficient number of central curing-rooms to serve the large territory over which the industry is spread in this country. These central stations should be nothing more or less than large refrigerators, situated at railway junction points, to which cheese could be shipped by rail, as well as serving the factories in the immediate vicinity. Arrangements can be made with the railways by which the railway will take the cheese to the central refrigerator practically without charge, the sole charge being a merely nominal one for shunting the cars, and the freight rate being charged from the original point of shipment, when the cheese are exported. The advantage to the railway being that the cheese when exported would go forward in full car loads, instead of as now largely in part car loads.

As a result of the more limited number of points at which cheese would be held, proper icing facilities for cars could be established at each of these refrigerators, so that when cheese were forwarded to the seaboard, cars could be iced.

If as I suggest cheese are received in boxes at these refrigerators and piled compactly in the building, the cost of central stations will be very much reduced, and by using the railways, the whole country will be served, which would be simply impossible by the present method. The points at which these refrigerators should be established should be one of convenience, but I would suggest that one be established at each point at which markets are held in the district covered by this Association, and I would further suggest that this Association employ a man specially for the purpose of organizing companies to erect, and carry on the work. I understand the Ontario Government passed an act a few days ago, giving municipalities power to assist by a grant or by the purchase of stock, and this act could be taken as the basis of organization.

Prof. Robertson : I am sure we are all delighted to have such an admirable paper from Mr. Ballantyne. There are just three points in the paper with which I am unable to agree. I quite agree with Mr. Ballantyne that the cool curing of cheese is one of the greatest advances made in the business during the last twenty years, and I think the most important step taken in connection with that movement was the establishment of the four Illustration Stations by the Dominion Government. (Applause.) They have done a great deal of good. I think it is a true method of making progress, not the Government giving the people something for nothing, but the Government doing at once what the people will afterwards do themselves. I do not think there is any objection to the plant at Woodstock, except a few people at Ingersoll who wanted it there and did not get it. Then another thing we must bear in mind is that a refrigerator is not a cool curing-room. The refrigerator is a place for holding cheese, but a cool curing-room is a place for curing cheese at a cool temperature. If these cheese are sent only once a week to the refrigerator it does not meet the case, because the spoiling is started and can never be arrested. They must go into the curing-rooms before they are two days old. These central curing-rooms were placed in position so that they could afterwards be adopted as central cold storage rooms, and by and by we will have central refrigerators, and we cannot have them too soon. These four stations will not cost the Government a cent. I believe I can sell these curing-rooms after six years for every penny they cost. They have been put along side of railway tracks, and they have been built to last, and built to sell again, and, I say, let us have more of them and help on the people's most important industry. (Applause.)

Mr. Ballantyne : Of course I do not want it understood for one minute that I was attacking the Department. I know Professor Robertson and his Department have done everything they knew how, and what they did was done in the best interests of the trade; but I felt that I had spent my life among factory men, and I knew the conditions that existed, and the relation of one factory to another, and I feel that you cannot get cool curing-rooms established throughout this country by co-operation of the factories, but that some other plan must be adopted. Something in the nature of a central refrigerator would serve the purpose. Professor Robertson has said a refrigerator is not a curing-room. That is not true. He has said a refrigerator will not serve the purpose. I say I know it will, because I have tried it. I have carried it on this last year with perfectly satisfactory results at a temperature of about 40 degrees. Most of the rooms went 38 to 40 degrees, some of them as high as 45 degrees. Some of these cheese would be taken out of the hoops on Monday morning and shipped to me immediately. I would get them on Wednesday, sometimes on Tuesday. They were immediately put into these cool rooms. Others came out of the hoops on Tuesday and were not shipped till the following Monday. I have watched them carefully, and I have not seen a tender rind in a single case.

A Member : Was there any difference in the cheese shipped on Monday, and those that were retained in the factory several days ?

Mr. Ballantyne : I did not have the dates separated, and I had no method of detecting, which was Monday's and which Wednesday's. The only guide I had was to go through the cheese generally, and see if I could find anything defective, and the real point I want to make is this, that I do not believe it possible, knowing the factories, and factory men as I do, to establish these curing-rooms universally over this country.

Mr. Steinhoff : Were they turned out of the boxes in Montreal ?

Mr. Ballantyne : All our cheese are turned out by the coopers, who see that there are scale boards on both ends, and they are immediately put back into the boxes and piled up.

Mr. Derbyshire : The purpose of these stations was to show the cheese-manufacturers of the whole of Canada the difference between cheese cured at a normal temperature, say 55 or 57 degrees, and cheese that are cured at such a temperature as happened to be there at the time. These four Illustration Stations illustrated to the whole of the people of Canada what could be done by curing cheese at a regular temperature, and it would be a great thing if we could have this plan throughout the whole Dominion. I believe these Illustration Stations have been the greatest improvement we have had in the last twenty years. I believe to-day that the good influence of the Illustration Station we have at Brockville is something that has spread itself through the whole of the surrounding country, and a large number of the factories in that locality have already put their curing-rooms in proper shape. We feel proud of the Dominion Government, and what they have done this year in connection with these Illustration Stations, and also the refrigerator cars they have given us, and the cold storage they have given us on board ships. I said to the Minister of Agriculture at Ottawa. "Give us more of these good things; you are too modest." I tell you that I feel proud of the Minister of Agriculture, and of the work he has done in connection with these Illustration Stations, and I believe we so warmed his heart up at Ottawa that he will do more in 1903 than he has ever done before. (Applause.)

Prof. Dean : I believe both speakers are agreed that some centralization is necessary to cure the cheese, and if these gentlemen representing the Department of Agriculture will pardon me for saying so, I think they have been splitting hairs in drawing a distinction between cool curing-rooms and refrigerators. I believe the distinction is too finely drawn. Where we have cheese cured at 50 degrees, and 55 degrees, or 60 degrees, or 40 degrees, our experience is that the lower the temperature at which cheese are cured the better the results. It comes to a question as to whether we will adopt a temperature of 50 degrees, or 60 degrees, as a matter of "saving expenses;" but if we want the "finest quality" if cheese, regardless of expense, I believe we should reduce that temperature. I agree with Mr. Ballantyne when he says it would be very difficult indeed to get the factorymen to co-operate, and I believe men of capital, who are willing to risk their money in the business, are the men who will put up these central curing-rooms; because the average factoryman has not the capital. When we took cheese right from the hoops into cold storage at the end of a week, or two weeks, and three weeks, there was very little difference between the cheese put directly from the hoops into curing and those put in at the end of a week. During the past year we tried the experiment of putting the cheese directly from the hoops into boxes and putting them into the cold storage, and we found them to be the finest cheese we had. Mr. Barr, who scored them, said "It kind of looks as if we were going to put our cheese directly from hoops into boxes." I hope the Dominion Government will continue this work along experimental lines. We are planning to have the refrigerator at three or four different temperatures to find out if there is any best temperature, and what that temperature is. (Applause.)

Prof. Robertson : There is one point I want to have quite clear before you. It is the crucial point of the whole effort. I have found for a good many years, that you run a very grave risk if getting the texture of the cheese very much injured if the cheese is above 65 degrees after it is three days old. We had a very careful examination made of the cheese, and the

shrinkage of the lactic acid bacteria after the cheese were three days old was something tremendous. Unless you get a cheese into a cold place before it is more than three days old you run a risk of getting both texture and flavor somewhat injured. That is the point I am after. Get your curing-room so close to you that you can get the cheese below 50 degrees before it is three days old.

Mr. Ballantyne : My whole object in raising that point was, that we might not waste time waiting for the extension of the system that had been started. I know that system will not extend, and will never spread across the country to the extent it should. Let us get away from the system of putting up cheese on shelves in curing-rooms. The rooms we now have are large enough to hold two or three days' make of cheese in the factory, but, to keep them at a low temperature for ten days, or two weeks longer than they do now, is a horse of another color; and if you are going to have all your cheese held longer than you hold them now, you must hold them in a Central Station. (Applause.)

Mr. Ruddick : As regards the size of the curing-room, I will undertake to alter the curing-room in almost any factory, and put an ice chamber in, and still have room to cure the cheese at a temperature of sixty; because you can put the cheese in boxes, and pile them up much higher than you do at the present time. As to cheese being defective in quality if left three or four days at a high temperature, we tried an experiment with regard to that this year, and found invariably that after the cheese were two days old they began to show the effect of a high temperature. The texture was invariably affected. We did not find a single exception. If the cheese were not brought to the Central Station for a week they would certainly be injured in quality.

Mr. T. B. Millar : I think the cool curing-rooms have been a great advantage to the dairymen of Western Ontario. Not in the way of establishing central curing-rooms, but in illustrating to the dairymen the good that could be accomplished by keeping curing-rooms at a lower temperature. I know the jealousy that exists among factorymen in Western Ontario, and I do not believe I will live long enough to see the time when we will have central curing-rooms, but I believe the majority of the factories will fix their curing-rooms so that they will be able to control the temperature below sixty degrees.

A Member : If I understand Mr. Ballantyne's paper right he favors the early shipping of cheese from the factory to Montreal, within three or four days at the outside. Now, I think last year there was a great deal of fault found with the factorymen for shipping their cheese out a little too green. I think it was Mr. Ballantyne's own firm that found a little fault with my cheese on that account, and I would just like to have that point cleared up, as to whether I understand him right in favoring the early shipment of cheese.

Mr. Ballantyne : I do not wish to be understood that the experiment I was conducting was a thing that the buyers generally approve of. I conducted the experiment for experimental purposes with five factories. I do not mean to say that dealers would want to take your cheese green.

A Member : About how long do you consider it necessary to hold cheese in the factory.

Mr. Ballantyne : The shorter the time the better, if you keep them at the high temperature that they are kept at in some factories. Get them into cold storage as quickly as you can.

Mr. MacLaren : Do you approve of shipping cheese direct from the hoop to the old country ?

Mr. Ballantyne : No. That would not do at all. The man in the old country wants to sell the cheese, does not want to hold them; so if I buy cheese for shipment I do not want them green.

Mr. MacLaren : How old should they be before they leave the factory to be shipped in the ordinary way ?

Mr. Ballantyne : Not less than two weeks old.

Mr. McKergow, Montreal: If the factorymen would adopt Mr. Ruddick's suggestion of this morning, and build an ice chamber next to the curing-room, the whole difficulty would be overcome, and they could take charge of their own cheese until they are fit for market. If cheese are kept at a temperature of fifty or fifty-five for the first ten days no injury comes to them, but over that temperature they are liable to receive injury. If you can keep them down to fifty you can keep them two or three weeks with perfect safety. Any cheese that will go off flavor in two or three days by a change of temperature from sixty to sixty-five must be an inferior cheese to start with, and when they are shipped to England where the temperature is sixty-five to seventy they will not hold good. I do not think the makers should have the idea that a low temperature would enable them to pass off inferior cheese.

Mr. N. G. Somerville : I had the privilege of visiting a great many of the factories that sent their cheese to the Brockville curing-rooms, and I found the results of the cold curing-room to be that most of the factories in the district are willing to go to the necessary expense of having their curing-rooms so constructed that they can control the temperature at sixty. The Curing Station has been a great object lesson, and I know it will have beneficial results. I have not visited a single factory that has not been willing to go to the expense of fixing their curing-rooms so as to control the temperature.

INSTRUCTION IN LAMBTON DISTRICT.

By G. H. Barr, Dairy School, O.A.C., Guelph.

The reports which were continually coming back from England regarding the unsatisfactory quality of our Canadian cheese, caused the dairymen of this Province no little concern, and the question was, how are we going to remedy this ? The Government increased the grant to the Dairymen's Association to provide better instruction, but still the quality of the cheese was unsatisfactory.

To see if a different method of instruction would improve the quality of our cheese, the Department of Agriculture, Ontario, took control of the instruction in the cheese factories in two districts in the Province, one in Perth and Brockville section, and the other in Lambton and Middlesex section employing an Instructor for each district and paying all expenses in connection with the work.

It is the Lambton section I wish to speak of, having had charge of that work. The factories in this section do not commence making cheese very early, only one of them making any cheese in April, the others starting from the 15th to the end of May.

There were sixteen factories in the section. Kerwood made butter all season, leaving fifteen cheese factories as follows : Warwick, Uttoxeter, Galabank, Vyner, Watford Union, Walnut, Thompson's, Maple Grove, Ridge Tree, Keyser, Napier, Appin, Sifton's, Mt. Carmel, West Williams.

On my first visit to the factories, I endeavored to point out some improvements that could be made in and around them, suggesting that the grounds and surroundings be cleaned and tidied up. In most cases there

was a willingness to do so, and the appearance of the places were much improved. But at others there was not much effort made to clean things up round the grounds. There can be great improvements made in this respect at most factories by having nicely kept lawns and flowers.

At some of the factories it was impossible to get even the necessary articles to manufacture fine cheese, on account of the small make. In some places they could not pay running expenses, in others the proprietors simply would not provide suitable equipment, and I would warn young cheesemakers against engaging to make cheese in any section where the factory is not properly equipped, as it is almost impossible to maintain a reputation in such factories. The main defects in the factories were poor floors, some of them leaking very badly towards the end of the season, causing a pool of filth under the factories, leaking vats, keeping the floor wet continually, causing it to rot out very quickly, and making it sloppy and nasty to work around, old curd sinks and racks that cannot be kept clean, hot water barrels where dirty pails and other utensils were dipped in, causing the water to be unfit for washing vats, etc. The hot water barrel should be elevated, and a tap put in it to draw the water off, and a wash sink provided for doing all the washing in. Old curd sinks and racks are one of the most filthy things we have in our cheese factories in Western Ontario, and it is time a great many of them were thrown out. I would strongly recommend cement floors for making rooms, dropping the floor about a foot below the sill with a cement wall under it, this would give a solid cement pan, and keep the dampness away from the sills. No gutters or troughs should be put under the floors; a large open gutter along the end of the vats is all that is necessary.

The trough from the factory to the whey tank should be open. Keyser and Sifton's factories had cement floors. These rooms never had that heavy smell so noticeable where wooden floors are. In several of the factories the hoops and presses were not good, and it was impossible to make a fine finished cheese.

At Maple Grove and Thompson's the curing-rooms were well insulated and had sub-earth air ducts. In the former the temperature did not get over 68 degrees, and only went to 68 degrees one day. At Thompson's the temperature was 74 degrees one day, the usual temperature in both rooms being from 58 degrees to 64 degrees. Keyser and Sifton's had cellar basements where the cheese were put during hot weather, the temperature not rising above 65. Appin, Watford Union, Warwick and Vyner had ice. The others had no provision for controlling the temperature and in some of the rooms the temperature was over 80 degrees.

The Secretary of Thompson's factory claimed that they had saved a half-pound of milk on each pound of cheese made during the hot months, by insulating the curing-room and putting in the sub-earth air ducts. If this be true, dairymen would do well to consider the matter for they would get back the money invested inside of two years.

The cheese cured in a good room did not develop undesirable flavors like those in the poor rooms, the quality of the milk being about equal. The cheese cured in the rooms with the air duct appeared to have more meatiness, although made on the same lines as the others. I would attribute this to less evaporation in curing as those rooms had a very high per centage of moisture, about 90 degrees. Mould was almost entirely prevented by the liberal use of formalin.

On my first visit to the factories I urged upon the makers the necessity of rejecting over-ripe, tainted, or gassy milk, and also asked them not to take in milk from any patron belonging to another factory, and I am

pleased to say that they were all willing to do this. I know of only one case where the milk was sent home, and the patron went to another factory and his milk was taken in, not by a cheesemaker, but by a butter maker outside of my district.

This practice cannot be too strongly condemned—it is largely the cause of so much inferior milk being delivered at our cheese factories, and the makers and proprietors are responsible for it. Let all makers do as our Lambton boys did, and our patrons will have more respect for them, and it will be easier making cheese. During the months of May and June, there was very little bad milk, the weather being cool and a great deal of rain. May cheese was inclined to be open, the main cause being lack of acid. I carried with me an outfit for making alkaline tests, this acidemeter or alkaline test being a somewhat new method of determining the acidity of milk or curd. I did not ask the makers to adopt it till we had given it a fair trial in all the factories. After using it for two months I was convinced that it was very much better than the hot iron, and seven of the makers started using it in August. It is needless to say they are greatly pleased with it, and none of them would go back to the iron again. They are able to make a more uniform quality of cheese, and the worry about knowing just when to salt a curd is almost done away with. I also carried twenty-four jars for making curd tests. This I found invaluable in the work of instruction. Without it I could do very little in improving the quality of the milk, and I would strongly recommend that each factory get at least two dozen jars for this work. Common glass tumblers about 4 1-2 or 5 inches deep will answer the purpose. Get a tin box large enough to hold them, with a cover over the whole box, which is better than a cover for each jar; fill the jar about three-quarters full of the milk to be tested, put it in water to bring the milk to 86 degrees, set the milk with 10 drops of rennet extract, cut it with a sharp knife, and raise the temperature to 98 degrees, the same as is done in a large vat. Run the whey off about noon, and keep the temperature up to 98 degrees, for two or three hours, when you will get any flavor or gas that is in the sample This is the only method I know of by which taints or gas appearing in the curd can be traced to their origin. It will convince patrons very quickly of the condition the milk is in, as they can see for themselves exactly the kind of cheese their own milk would make, and by following the matter to the farm invariably conditions will be found that would readily cause the trouble, and in most cases the remedy will not be difficult.

During the season I made 420 curd tests. Out of this number there were 118 gassy and tainted. 35 farms were visited and in every case where gassy or tainted milk was found the patron sending such milk was either visited or received a card stating the condition of the milk, and the remedy. If our cheesemakers will take up this work, show the patrons exactly the kind of cheese such and such milk will make, and the loss they are sustaining from gassy and tainted milk, the quality of the milk will soon be improved, and this is really the great work. Get a better quality of milk delivered at our factories. I was able to visit each factory every three weeks. Sometimes I would only stay an hour or two at a factory, other times I might stay two days, all depending upon the conditions I found. In all I made 109 visits. It was the intention to hold patrons' meetings at the factories in May, but on account of the elections no meetings were held till June.

Prof. Dean addressed several meetings at Watford and Arkona in June, both evenings being very dark and wet, the attendance was small.

Eleven factories had patrons' meetings in June, with an attendance

of from 10 to 45. In October I held 11 meetings, with an attendance of from 15 to 60.

At these meetings breeding and feeding the dairy cow, and the care of milk were discussed. I also endeavored to show the patrons how much money they were losing by delivering over-ripe, gassy, or tainted milk to the factory.

Although these meetings were not largely attended the discussions were interesting, bringing out much useful information, and I believe were the means of stirring up the patrons to better work. One feature in the meetings was that the best patrons attended them, and those who needed the information most stayed at home. In July there was a large quantity of gassy, tainted milk, causing a good deal of trouble in making the cheese. In August there was not as much gas as in July, but there were more flavors in the cheese. In September it seemed to be difficult to get enough body in the cheese, I think on account of so much rain, and soft grass. We found it necessary to cook the curds to 99 and 100 degrees. In October the milk was in fine condition.

The cheese were shipped out quickly all season, in a few cases seven days old, but nearly always at from ten to fifteen days. The finish of the cheese, although very much improved towards the end of the season, could be greatly improved in some of the factories, while in others they were very neatly put up all the time. Some of the factories had covers for the cheese when being driven to the station. Being an entire stranger to the patrons in the section, I found that they looked with some suspicion upon an Instructor or an Inspector, as they are usually called. This, I have no doubt, is due to the work the Instructors have been doing, in the past, that is testing milk for adulteration and prosecuting, and until this idea is removed from the minds of the patrons, the work of visiting the farms will not be pleasant ; but when they realize that it is to help them and save money for the patron, then they will be pleased to have an Instructor or any one else come around, who can do some good. Some of the results of the season's work that stood out very plainly. The cheese were more uniform in quality in the district.

Patrons who were sending bad milk in the beginning of the season after being visited sent the finest milk delivered at the factories. The cheese were put up and finished better.

The system seemed to create a friendly rivalry between the makers as to who would get the best report regarding the quality of the cheese, and the way the factories and surroundings were kept.

The introduction of the acidemeter for determining the acidity of the milk or whey was a good feature in the work.

There is only one way to produce fancy cheese, and that is to manufacture it from clean, sweet, good-flavored milk. There are so many patrons of cheese factories who really do not know how to take proper care of the milk that we must get in closer touch with the farm end of the business.

The system of grouping the factories into about twenty-five in each group, putting a man to devote all his time to visiting these factories and patrons would appear to be the best way to secure fine milk.

The greatest good can be accomplished only by close co-operation between the Instructor, maker, proprietor and patron. The makers and proprietor should remember that the quality of the milk will never be any better than is demanded, if they do not demand fine milk then there is nothing for the Instructor to do. But if fine milk is demanded then the patrons will want information.

I found all over the district that the most progressive dairymen were in sympathy with the work.

I found it impossible to visit all those sending gassy, tainted, or over-ripe milk, so I got a card printed, which contains some useful pointers as follows :

HINTS TO PATRONS.

The following are some of the causes of gassy and tainted milk:

Allowing the cows to drink impure water from dirty watering troughs, stagnant ponds, soakage from barnyards.

Feeding rye, rape, turnips, turnip tops, ragweed, leeks, or apples.

Not wiping cows' flanks, udders, and teats before milking.

Milking with dirty hands.

Using wooden pails for milk.

Not straining the milk immediately after milking.

Stirring or aerating (exposing to the air) close to a swill barrel, hog pen, hog trough, hogs, barnyard or milking yard.

A rusty old milk can.

Milking the cow, dumping the milk into the milk can and leaving it over night without either straining, aerating, or cooling.

Sour milk is caused by leaving or keeping it at too high a temperature.

Milk should always be strained, and aerated (exposed to pure air), by running through an aerator, dipping and stirring, immediately after milking.

In warm weather the milk should be cooled by setting the pails or can in cold water while it is being aerated. Cool to 65 degrees.

Saturday night's and Sunday morning's milk should be cooled to 60 degrees, set in a cool cellar and covered with a clean robe or blanket, and let alone till Monday morning.

Milk cans and pails should be washed with a brush and luke warm water in which a little sal soda is dissolved, then scald and place on their sides in the sun. Cans and pails should be scoured with salt occasionally.

A rusty can should never be used to send milk in to the factory.

Successful dairying can be summed up in two words—Be Clean.

.... Cheese Factory.

....190....

Dear Sir,

Your milk delivered here..... ....

I find ....

This kind of milk causes a serious loss in being manufactured into cheese, requiring from one to three pounds extra milk to make one pound of cheese. 100 pounds of gassy or tainted milk may cause a loss of from $5.00 to $10 in this factory in one day.

Please note hints on back of card.

Respectfully yours,

GEO. H. BARR,

Government Dairy Instructor, Watford.

These were enclosed in an envelope and sent to any one who had sent milk that was wrong. The condition of the milk being written in the blank space for that purpose. These cards, although a good thing, do not accomplish as much good as a visit.

The conditions surrounding the milk on the farm will be given in a separate paper.

The following is a condensed report of the factories in the district, which explains itself :

MILK RECEIVED AT CHEESE FACTORIES, AS IT IS, AND AS IT SHOULD BE.

As it is. There is being delivered at our cheese factories during the summer months very large quantities of gassy, tainted and over-ripe milk. Just what the loss is from this kind of milk is difficult to estimate. It looks sometimes as if we might lose our reputation in the English market from this cause, which would be a serious thing, and something we must guard very carefully. But when we consider the actual loss the patrons of cheese factories are sustaining by delivering such milk, and having it manufactured into cheese, it is a serious matter, and one which patrons would do well to look into. In October last one of the factories I visited was getting about 5,600 lbs. of milk, one vat daily. On the 8th there were made seven full-sized cheese, and one of about 50 lbs. On the 9th one of the milk waggons was about 1 hour late, and the whole vat of milk got over-ripe; there were only seven cheese made from this milk. The day following there were seven full-sized cheese and a 50-lb. one. The loss from 5,600 lbs. of milk being about 50 lbs. of cheese, which would mean a loss of about $5.50, or about 550 lbs. of milk, about the quantity 22 cows would give—22 cows milked for nothing. In nearly every factory in Ontario there are such losses day after day during the hot weather. The loss from gassy milk is equally as great as from over-ripe milk. On July 30th one of the factories received 11,234 lbs., equally divided in two vats. One of the vats of milk made a good curd without any gas. The other was very gassy, nearly a floater. When the two curds were put to press there was about 60 lbs. of curd less from the gassy curd than from the one without gas.

The cheese made from either gassy or over-ripe milk cannot be fine. They may be made so that they will pass inspection in the curing-room, but some time later on they will develop an undesirable condition.

Milk may be tainted and not gassy, but the loss in manufacturing is considerable, and it is impossible to make a fine-flavored cheese from tainted milk, and no matter how well a cheese is made if the flavor is wrong it is a cull, and must be sold at cull prices. What are the causes of gassy, tainted and over-ripe milk? By the use of the curd test and visiting the farms during the past season I was able to get some information on this point. I will give the notes taken on a few visits to the farms.

Sample No. 11 made a floating curd in the test. At the farm where the milk was sent from I found the pails and can as bright and clean as new. The milk had been strained into the milk can on the stand and thoroughly stirred and aerated there.

The stand was only about twenty feet from the barnyard, a swill barrel was close beside the stand. The buildings around the stand were in such a position that there was very little circulation of air, and of course the more the milk was exposed to such an atmosphere the more gas germs it would get into it as the air surrounding such places is full of gas germs.

Sample No. 15. A Floater. Can clean, milk strained, aerated and cooled in water, on a grassy plot near the house, but only about twenty feet from a yard where hogs were running. We found even worse conditions than these two cases, but at every farm visited where gassy milk came from the surroundings were very much the same. The milk kept very close to the hog pen, swill barrel, barnyards, chicken coops or milking yard, and when the milk was removed, it came to the factory in first-class condition.

Sample No. 1. Tainted, goosey flavor, no gas; milk not aerated immediately after milking; can very rusty and not clean: surroundings good.

Patron got a new can and aerated the milk and it was never found wrong afterwards.

No. 2. Same taint; surroundings good. Whey had been left in the can all day, and the can not washed very clean.

No. 8. Badly tainted and gassy; milk strained and aerated on the milk stand, which was about fifteen feet from a hog trough; can rusty. An old rusty can for whey close beside the stand. In this case the conditions are the same as those producing gas, along with the rusty can, causing the taint.

No. 3. Very bad, goosey taint; can and surroundings clean; milk strained into can and never touched. A few taints were found where the food eaten by the cows was the only cause to be seen—rank clover rape and rag weed. The clover taint did not appear in the cheese to any great extent.

It would appear that taints, without gas, come largely from rusty and unclean cans, unclean milking and lack of aeration, and gassy milk is largely caused by the surroundings.

Over-ripe milk, due to leaving or keeping it at too high a temperature, putting warm morning's milk into the evening's milking.

As it Should Be. It should be from healthy cows, receiving good wholesome food, and pure water ; the flanks, udders and teats wiped off clean before milking is commenced; milking with dry hands into clean, bright tin pails, never into wooden or galvanized pails. Strained (don't forget that) immediately after milking, aerated and cooled at the same time to a temperature of 68 degrees. This must be done in a pure atmosphere, and should be all finished in half an hour after the milking is done. Keep the stable clean, or if one milking has been done in the same yard for ten years, better change it this year. Keep the pails and cans clean by washing them with a fibre brush and warm water, in which a little sal soda has been dissolved. Scald them thoroughly ; remember scalding means using boiling water. This is absolutely necessary to prevent taints. Place the can on its side in the sun. Scour the cans with salt once a week. Never put milk in a rusty can.

There is a lot of hard labor about milking cows. The profits are none too large. Do not make them less by carelessness and lack of cleanliness. It is a simple matter to produce good milk by doing the work in the right way, at the right time, and in the right place. I trust that every patron who hears this or reads it will examine closely their own farms to see if any of the conditions mentioned are present, and if they are that you will remedy them for your own sake, your neighbors, your cheesemakers and for the good reputation of our Canadian cheese.

THE RENNET, HOT IRON, AND ACIDEMETER TESTS IN CHEESE-MAKING.

By. Prof. H. H. Dean. O. A. C., Guelph.

We, in the dairy business, have to work hard, no matter whether it be in the factory, or occupying a public position. That is one of the penalties of being a dairyman, and that is one reason why it is so difficult to get good men to stick to the business. I presume that most men have found this to be the case, and one of the things we are aiming at in our dairy business is to make our work as light as possible, because in any case it is heavy and hard work.

Every improvement which has been made in the dairy business has been the result of the application of science or truth to dairying.

We have been for some time groping in the dark after the truth which nature has hidden from us, and which we can only learn by active research. Every speaker has aimed to give you the result of his search after truth, and after knowledge. The man who merely guesses at things, and tries to give you the impression that it is the result of his research, is a man who is not giving you sound doctrine in dairying. Let me point you to two or three illustrations on this point. What was the dairy cow in her original and natural condition? Do you find any of nature's cows which will give us ten, twenty or thirty thousand pounds of milk? Not by any means. How have these cows been obtained? By the application of scientific principles to the breeding and feeding and handling of dairy stock. At one time it cost a dairyman a great deal to produce a pound of milk, a pound of butter, or a pound of cheese. The application of science to the feeding of dairy cows has reduced that cost materially, and I believe the time will come when we shall understand what is required by the dairy cow, and the present cost of feed will be cut in two. Last week I had a talk with Professor Short of Wisconsin. He says that as the result of growing alfalfa or lucerne clover by the dairymen there they are cutting the cost of milk almost in two. What is there in lucerne that enables the dairymen to reduce the cost of butter or cheese? It is a principle well known to chemists. It is something which acts on the secretive powers of the dairy cow. The nitrogenous compounds in the alfalfa, which the cow digests, enables her to produce milk in the very cheapest form possible.

It was thought at one time, and it is considered by some yet, that the only way to get cream out of milk is to set it in pans or cans, but by the application of a well-known physical law, we got the separator, and we can separate the cream from the milk and get it almost instantaneously, and I do not suppose there is any machine which has done more to help our butter makers than the cream separator.

At one time we were groping in the dark in order to find out how we could test the percentage of fat in the milk. We had lactometers and lactoscopes and pioscopes; and I remember when Prof. Robertson, my esteemed teacher, was lecturing to us students, he illustrated the pioscope, lactoscope, and all the instruments which at that time were known for testing milk. Yet all these were mere guesses. I had last week the pleasure of meeting Dr. S. M. Babcock, a man of scientific research, who has discovered a test by which anyone can ascertain correctly the percentage of fat in milk. Was that the result of an accident? Was that the result of anything less than the application of scientific truth to the principles underlying the separation of fat from milk? No. I might go on and give you innumerable examples of where science and truth has helped the dairymen.

I come now more particularly to the topic which I should have taken last evening, viz., The Rennet, Hot Iron, and Acidemeter Tests in Cheesemaking.

We find men to-day who determine the acidity or sourness of milk by smell and taste, and some men have their sense of taste and smell so trained that they can tell you almost to a nicety what acid there is in the milk, whether it is ready for the rennet or not. They have, after a great many years, been able to train their senses to such a point that they are able to make good cheese without the aid of the rennet test; but men who had investigated this point said, "We must have something more accurate than that," and from them we get the Rennet Test. I want to point out, however, that the rennet test measures the susceptibility of milk to

the action of rennet, and does not necessarily measure the acidity of milk. After looking into this matter carefully I have come to the conclusion that there is not any constant relation between the rennet test and the acid in milk ; and to the conclusion that the rennet test measures the susceptibility of milk to rennet, and does not measure its acidity. The most important thing for the cheesemaker to know is how to develop and control and keep in check the acid or sourness of his curd. We have been using during the past two summers an acidemeter, and in this connection I would like to say I consider the term "acidemeter" more correct than the "alkaline test." Most of our men have got into the way of calling this the "alkaline test," which is scarcely correct. The term "alkaline test" means a test for the alkalinity of any substance, and in this work we are not testing for alkalinity, but for acidity; therefore the words "alkaline test" are incorrectly used, the more correct term being "acidemeter," or "acid test." I think it is important, if cheesemaking is a science, as we believe it is, that we use correct terms, and that we understand them when speaking about the different steps in the process of cheesemaking.

The Hot Iron Test. Now I suppose I may look out for trouble. Some of you old cheesemakers have used the hot iron test for so long that you consider it an essential and necessary part of cheesemaking. So far as I have been able to look into the question of the origin of the hot iron test, I find that it is based on an accident, and it is a test that has continued to be an accidental test ever since. A man accidentally found that sour curd would stick to a hot iron. A cheesemaker may determine the acidity of his curd as indicated by the hot iron test, if he uses good judgment, but more depends on good judgment than upon the hot iron test. The hot iron test is not based on truth ; it is not based on science. Nobody has yet offered a satisfactory explanation of it. As I said, it is the result of an accident. A man accidentally touched some curd against a hot iron and found it to "string"; and from that accident we have the hot iron test as used to-day. It is in the same class as using the finger for a thermometer, and putting a hot horseshoe into cream to make the butter come, and other things which are based upon witchery, and upon nothing. I am satisfied that in the very near future there will be both rennet tests and hot iron tests "to burn" in the cheese factories of Canada.

So I think in connection with the rennet tests, and the hot iron tests of the cheese factories, in the very near future you will have them to burn. Why ? Because the acidemeter is based on well-known chemical laws which chemists understand. A certain weight of alkali will neutralize a certain weight of acid. The principle is based on science and truth, and if I know anything about the advance in the cheese business we can only advance as we base our work on science and truth, and, as we depend upon guesswork or any tests which do not give us exact and scientific results, we are to that extent being misled.

We have heard a great deal about the washing of curds. To give you an illustration of how important it is to know what we are doing, I am in a position to tell you that we have found, as a result of our experiments with washing curds, that it tends to materially reduce the acid in the curd. Can you tell me a more nonsensical thing than for a cheesemaker to make the conditions favorable for acid up to a certain time, and then wash the acid out ? Can you show me where there is any science in that ? It is sometimes advisable to wash curds such as acidy or tainted curds. A man who does not study these things from a scientific standpoint is a man who is groping in the dark, and who will not attain that height we are expected to attain in cheesemaking.

What are the advantages of the acidemeter over the rennet test? First, cheesemaking will be based on acid from the beginning of the process. Second, it takes less time to make tests with the acidemeter than with the rennet test. Third, there is less waste of milk and curd. Fourth, there is less liability to error with the acidemeter as compared with the rennet test, because you have not so many things to guard against, such as temperature, quantity, strength of rennet, time, etc.

What are the advantages over the hot iron test? It gives the acidity in exact terms. There is less danger of developing too much acid on the curd. Why? Because the acidemeter will tell the cheesemaker exactly how much acid he has, whereas with the hot iron he is guessing at it. Mr. Bell, this morning, pointed out very forcibly the necessity for uniformity in our cheese, and I think the acidemeter will help us to get uniformity better than anything else we have yet discovered.

I do not advise cheesemakers to throw away their hot iron and rennet tests all at once. You will need to study the acidemeter, and how to get the best results with it, before you use it altogether. On the other hand, do not be so pig-headed that you will not make any change, because the using of it will help you to make better cheese, and will make you a more scientific man. Some men remind me of

"The poor benighted Hindoo,
He does the best he kin do;
He sticks to his caste from first to last.
And for pants he makes his skin do."

There are some who will stick to anything from first to last, and will make no change. They refuse to see where they can make improvement. In this connection I am reminded of a piece of statuary I saw last week.

My friend, Mr. Millar, and I went into the art gallery at Milwaukee. As you go in there is a centrepiece of statuary, a beautiful woman, with her form perfectly poised, a perfect form in every way. Beside her stands a child. The woman is holding a mirror and gazing into it. I fancy the sculptor is making her say, "If there is anything defective in this form I will remedy it—I will make it appear so beautiful that it will charm man so that I will be able to lead him anywhere I like." She was perfect in every way, and yet she is gazing into that mirror, and you could see on her face the expression, "If there is any improvement, I am going to make it if at all possible." What about the child? It stands with its arms across its eyes refusing to look at itself in the mirror—refusing to see the imperfections of its form; and there are men to-day who are like that child, blinding their eyes with their arms and refusing to see anything that is wrong, whereas they ought to be like that beautiful woman who, looking at herself, says "If there is any room for improvement, I am willing to make it."

LESSONS TO BE LEARNED FROM THE DISCUSSIONS.

By J. W. Robertson, Commissioner of Agriculture, Ottawa.

If any of you have learned as much as I learned from this morning's session then you are very well repaid for coming to this convention. (Applause.) I want to speak of a few of the lessons I have learned in order that you may see some of the things you might also have, had you been there, and those of you who were there might see more meaning in some of the things that were presented.

First of all, there seemed to me to be a splendid sequence at this morning's session. There was the Report of the Judges on Exhibits. There you had the market judgment on the finished product. Then you had a most admirable paper by Mr. Adam Bell, a capital paper, telling the beginner as well as the experienced cheesemaker, ways by which he might get the product that would raise the standard of our cheese.

Then you had an address from Mr. Ruddick on one of the particularly new things in the improvement of cheese for the market, cool curing of cheese at temperature under 60 degrees.

Let me speak a little on each of these in detail. The judges said that the exhibits on the whole were highly creditable. I found that so myself in going through the lots with the judges afterwards. What strikes the judge first in judging cheese is the outside appearance; but that does not count for most, because the cheese that were rated the handsomest on the shelves were scored away down and were not among the prize-winners, although that does not mean that handsome appearance does not count for something. It does not count for most, although it counts for a good deal. Many of the cheese had poor rinds, and that scored them down. Some did not have cap-cloths; that meant more liability to take on unsightly appearance and to get spoiled. These two things can be easily remedied. See that your cheese are finished with cap-cloths of bandage material that press right into the cheese. Seven lots of cheese were complained of as being seamy in appearance, or streaky. I think that is caused sometimes by the curd being washed, and I learned that one of the lots that had that appearance had been made from washed curd.

Another point that I would like to make is, that the market demands the chalk shade of white cheese rather than the amber shade, that is so prevalent in Ontario. Even the London market, that formerly preferred the amber shade now wants the chalk shade. The judges said that most of the lots were quite satisfactory; solid, smooth, rich and meaty, and fairly waxy. These were the trade terms. I wish every cheesemaker would write down the trade terms of the qualities of cheese. The standard for these things has been the cool September cheese of the past. What does that imply? September milk is not cleaner than July milk, seldom quite so clean, but the temperature for curing September cheese is better. Our July cheese this year had the September body. The average temperature of the dairying districts of Scotland and England during the summer is about 60 in July and August, and July and August cheese of Scotch and English dairies always sells for more money than September. They are worth more money, as they are of much better quality.

In judging things the word flavor seldom means taste. Most judges judge by the odor. The expert judge can tell by the odor what the taste will be. And, after all, the final test of merit is the taste of the actual flavor on the palate. The trade wants a clean flavor, and that means that everything must be conducted on clean principles, and they also want a cool flavor. The milk and the process must be clean, and the conditions cool, and when you have that you get the best results in cheese. If these two conditions are at work all the rest is easy. I find that twelve of these exhibits were designated as not clean, or dirty flavor, and I think the description was quite apt. Five lots were called fruity. I object to the word fruity. Fruity suggests to me the Annapolis Valley, with the apple trees in bloom and laden orchards with the fragrance of apples or strawberries and peaches, or even the exquisite flavor of grapes. That is fruity. I do not think that abominable stink in these cheese should be called fruity. It is said they smelt like bad cider, and I would not say that smelt like fruit.

These papers of Mr. Barr's were excellent contributions of original knowledge of dairy matters—(applause)—giving us data from which we can draw conclusions that are very valuable.

Butter. The judges complained that in some cases the paper was too thin. That has been the fault with the butter for our export trade. And they also complained that there was only one ply of paper between the butter and the box. There should be two ply.

Two lots were called old flavor, and two lots had flavor, and two lots had gritty salt. There should be hardly any excuse for old or bad flavor at this time of the year. Butter with appearance most moist is seldom the butter than has the most water in it. Last year our Department analyzed butter from creameries in all the Provinces in Canada, and also from the warehouses in Montreal, and butter that is described by the trade as moist, or very wet, is found in every case to be the driest butter. I hold our butter shows 2 per cent. less moisture than the butters of Denmark, and I hope that during this year we shall be able to carry on some investigations that may lead to a better knowledge of regulating water in butter.

Mr. Adam Bell's paper was so excellent and clear and complete that it requires no analysis. One thing impressed me all through the paper, and that was that Mr. Bell, if he be anything, is a skilled cheesemaker. His paper did not impress me as being especially strong, or specially new on the methods of cheesemaking, but I find that he stipulated for intelligence and good judgment on the part of the cheesemaker as essential to the making of good cheese. Mr. Bell is a man of discernment, and the first thing I picked out, in listening to his address, was the fact that intelligence and good judgment are essential to making good cheese. The experienced cheesemaker should have much more intelligence and good judgment than a young cheesemaker. The same with teachers in schools, and it should become the rule to so appreciate good workmen that they would get a gradual increase in salary. The school teacher who has been teaching for four years is much better than a teacher who is teaching for the first year, and the cheesemaker who has been making cheese four years should make better cheese than the man who is making it for the first year. Mr. Bell is not willing to accept the present cheesemakers as the best the country can have, because some cheesemakers do not realize this ideal of his. He does not say let the whole thing go to the dogs, but he says keep on working for improvement.

I went into Prince Edward Island once, a Province noted for the ability of its individual citizens, and their intense individuality, every man being really better than his neighbors, and I have been in places just like that in Ontario, and the people in these places say more unkind things about themselves than anybody else. I have heard you could not get three men to go together to make a culvert in the right place in the road, or three men to act together to hire a teacher for the school-house, and that you cannot get any body of School Trustees to join in having one school, but I do not believe that. I believe the people of Canada like one another so well, and have so much confidence in one another's ability, that there is no people in the world more ready to co-operate together for the common good. Take Scotland and you have the rich landlord on the top, and the tenant farmer, and then clean down to the farm laborer, and they cannot co-operate. They cannot stand on the same plain, and even in Russia you have the Czar and the poor moujik, the miserable man that knows nothing. But in Canada every man has the chance to be intelligent, every citizen is fit to govern himself and to come in contact with his fellow, and do you mean to tell me that these men cannot sink individual preferences far enough

to join in their might and put Canada on a higher plane than she has ever been before? (Applause.) We will have five consolidated schools in Canada this year, and school sections voting to get in that cannot get in. That is one of the things people said we could never agree upon. We have five now. The plans have been drawn. And we will have consolidated curing-rooms (great applause) if they are the best thing to have. The people of this country are intelligent enough to have them, and if they are not the best things to have we will go on and find out what is the best by actual experiments.

I will say a few words on Mr. Ruddick's paper. He did not say anything about the sub-earth duct, therefore some people will say you are advocating the sub-earth duct a few years ago, now you are advocating something else; advocating something new every year. Yes. We are advocating something better each time. I believe in the evolution of the human intellect, in the ability of the race to rise up and know more, and, therefore, do more. If you do not believe in that you might as well believe man should always have stayed a savage. I do not believe the horse I would have in Ottawa now is any better than his ancestors 3,000 years ago, but I hope I know more than any ancestors of mine knew 3,000 years ago. Sub-earth duct: What is it for? To get the cooling power as much as you can. Now, you have the concrete floor. It is the same principle, but the application of the principle in a better way. I had a cement floor and stone walls seven feet high in two cheese factories I controlled in 1882, and we got mould and I could not find a remedy for it, and I quit it, but now we can fight the mould and therefore we can have what we could not have twenty years ago.

One of the best points in Mr. Ruddick's paper was the insulation to keep the heat out. That is by the use of the remarkable cooling agent, ice. To illustrate the cooling power of ice, suppose you take a pound of water quite near the scalding point, say 142 degrees, and take another pound of water which is at the freezing point, 32 degrees, mix these two together and put in your thermometer, and you will get an average between the two, 87 degrees. Then take a pound of water 142 degrees, and a pound of ice, 32 degrees, instead of a pound of water, and put these two together, and when the ice is melted the mixture is just 32 degrees instead of 87 degrees. That is the difference between the cooling power of one pound of ice at 32 degrees and a pound of water at 32 degrees.

We had no less than 480 pairs of cheese taken out of the same vats, 480 of them cured in a cool room and 480 cured in the ordinary way, and never in one case were those cured in the ordinary way as good as those cured in the cool room. They were made in 37 different factories. There was not a single case where the cheese cured in the ordinary way were as good as those cured in the cool room, and there was less shrinkage in weight, and better texture, and better flavor. And out of the 500 lots that were sold there was just two lots found fault with. One was sour, and the other had some fault in it not in connection with curing. Therefore, we say let cheesemakers keep their cheese at a temperature below 60 degrees as soon as they can after they are made, and then we will have as much improvement in our cheese trade as cold storage has made in our butter trade. We have sold sixteen times more butter since we have been able to get it cooled than we did before.

A Member: What about cheese after they arrive in the old country? Do you not find in many cases they are spoiled there by the heat?

Prof. Robertson: If cheese are cured at a low temperature until the body is pretty well broken down, even a high temperature after that does not bring up and bring out a bad flavor. And that point has been made

quite clear by Dr. Babcock. We are keeping five men in England now, and we are issuing circulars to the trade pointing out the necessity of keeping our butter and cheese cool after its delivery. Prof. Dean has made some valuable experiments, which all point to the fact that a temperature under 60 degrees is advisable.

Paraffining Cheese. The only thing to be gained by paraffining cheese is the production of a clean appearance for a longer period. The cheese should not be paraffined until a week old. If that is followed there is less shrinkage in weight, but nobody should try to paraffine unless they have a cool room. Now, I have tried to go over the ground as well as I could, and I may say that in the exhibition I found very much that was instructive. In Mr. Bell's paper I found very much that was suggestive. In Mr. Ruddick's description I found very much that was exceedingly useful, and now we want you to go home and do the things that will advance the dairy business, and help the cheese curing industry in Canada.

ADDRESSES OF WELCOME.

C. B. Heyd, M.P.: I am only too glad to comply with the request of your Secretary to say a few words to the Western Dairymen's Association. I had the pleasure of listening, this morning, and this afternoon, to the discussions, and the speakers evidenced an amount of learning and acquaintance with the subject that astonished me. The question of agriculture and of dairying is a live one in this Canada of ours; and, being a member of the Agricultural Committee at Ottawa, I have frequently heard the members discussing questions before that Committee. My mind reverts back to the time when this industry was conducted on an entirely different platform in Ontario. The farmer in those days was thought to be a good farmer that could plow, sow, reap, and mow, but the successful farmer to-day requires to be a man of wide attainments. He has to be a chemist, a bacteriologist, a zoologist, and, in addition to the possession of a knowledge of all the oligies, he is required to be a successful business man. Admitting that the farmer now requires a wide measure of knowledge in order to be successful, he stands upon a higher plane than the men who are engaged in the ordinary avocations of life. The mechanic requires four or five years of apprenticeship, the merchant requires a few years behind a counter, and a professional man four or five years atendance at one of our Universities; but a life devoted to farming alone enables a man to successfully become an agriculturist. I have frequently had an opportunity of speaking from this platform, and addressing myself exclusively to audiences of this city, whom I have told that, while the manufacturing interests of this country were of a great deal of importance to the country, they were only subsidiary to that of the great agricultural industry of this country, upon whose prosperity the prosperity of the manufacturing and mercantile interests of the country depends. (Applause.)

In the exports from mines there has been an exceedingly large increase during the past three years. Last year our exports amounted to some thirty-five million dollars, and it has been said that our exports of minerals will soon be greater than that of our agricultural interests. Take that of fisheries; our exports last year amounted to some fourteen million dollars; that of forests amounted to thirty-two million dollars. These are items that are more likely to decrease than to increase in the future, unless these magnificent pulp resources that appear to be the heritage of Canadian people result in increasing these exports. In manufacturing, our increase

has been quite marked during the past ten years, last year being eighteen and a half millions, almost an increase of 100 per cent. over what it was ten years ago. I do not look forward for any particular increase for some years to come in the manufacturing industries, but in agriculture we are justified in hoping that the future will be as great, if not greater, than it has been in the past. We exported thirty-seven and a half millions last year of agricultural products, and in that industry that you particularly represent, animals and their products, we exported fifty eight and a half million dollars, making a total of ninety-six million dollars out of about one hundred and ninety-eight millions, and if we confine ourselves to that portion which you particularly represent, the buter and cheese and bacon industry, their increase is much more marked than in any other department. In the year 1892 the export of butter amounted to $1,273,000; ten years afterwards to $5,660,000. Cheese ten years ago amounted to twelve and a half millions and last year to $19,800,000. Bacon amounted to one and a quarter millions in 1892, and last year to $13,000,000, or an increase during the past ten years of from $15,000,000 to $39,000,000, equal to 160 per cent. I regard that as a remarkable evidence of the prosperity of this dairying industry, and it shows the ability of the men that are engaged in the work, and the instructions that have been flowing from Ottawa and Guelph owing to the influence of the two governments, through the scientific experts that they have in their employ; and I notice to-day that the men who replied and criticized and asked questions were just as well qualified to express a scientific explanation as to how much should be done, as the man who had for the time being possession of the platform.

The most remarkable thing about this is that while the population of Canada increased by only 9 per cent., the dairying products have increased by 160 per cent., and it is a fact that in the rural parts of the old Dominion of Canada, exclusive of Manitoba and British Columbia, the population is 112,000 less than it was ten years ago, while that of the city and village has increased by 500,000 people.

While I admit there are families in this country that eat the best that farmers produce, yet I must say that the best of it goes out of the country, and the refuse is left behind. Professor Robertson told us that some of the butter exhibits were off color, and some off smell. What is it that causes the high price of butter to continue in our towns and cities? What is it that has caused poor butter to sell in the Brantford market to-day at 25c a pound? What is it that causes eggs that rattle in their shells like peas in a pod to sell for 20c a dozen? What is it that causes chickens that are not good enough to send to the old country and sell for 14c a pound to be selling in Brantford for forty and fifty cents a piece? What is it that causes turkeys to be selling in the Brantford market at 15c a pound? It is this immense home market that is lost sight of, and which cannot be any more lost sight of than the agricultural interests of this country. I am in the peculiar position of representing an agricultural constituency and a town where the instincts of the mass of the people are for a higher tariff, and I recognize that the greatest interest we have in this country is the agricultural industry, and that it must not be oppressed by undue taxation. If you cripple the farmer you cripple the merchant, and cripple the manufacturer and the citizen and you injure the farmer. We are citizens of a great country who must meet on some common ground, and I trust we will be able to hit on a plan that will result in giving a stimulus to the prosperity of Canada during the next ten years that will at least equal what has taken place during the past ten. (Applause.)

T. H. Preston, M.P.P.: My friend Mr. Heyd, with an industry peculiar to himself, has so completely gathered in all the eggs from the oratorical nest that I am afraid there are scarcely any left for myself and the other speakers. Not even that traditional bit of porcelain as an encouragement to resume operations. I am disposed to believe that I am asked to the platform to-night not so much as a politician, but as an editor. Politicians are supposed to be acquainted with dairying to the extent of knowing what side, that is, whether the inside or outside, of their bread is buttered. I am able to congratulate you dairymen on the marked improvement of your financial and social conditions. The two great drawbacks to rural life at the present time are, first, the isolation, and second, the drudgery. The isolation will be removed in the near future by means of rural telephones, which have already come into large use in the United States, and which are now attracting the attention of our good old friend Sir William McDonald, and which, when they are put into use in this country, will enable you to put to service your barbed wire fences; and the papers tell us to-night that Marconi is now working upon a pocket telephone which he hopes to complete in the near future, and by means of this pocket telephone, no matter where you are, you will be able to hold communication with any one, no matter how distant, who is equipped with a similar apparatus. Also you may expect in the near future to receive a rural daily mail, and in this connection I would remind you that the suggestion is being made that Sir William Mulock should make it a condition of extending the rural daily mail service in Ontario to those counties which have come under the provisions of the "Good Roads' Act."

By means of this work, which Prof. Robertson is seeking to develop in our rural schools, and which are calculated to give the children the same privileges in the matter of education as are enjoyed by the children in the city schools, and by means of improved transportation facilities, you will soon have the life of the country equal to that of the city. Already ninety-seven townships, near one-quarter of the entire number of the Province, have abolished the statute labor system in whole or in part. Three counties have come under the "Good Roads Act" of the Ontario Government, and there are five other counties in which negotiations are now in progress. Therefore you can see that there are good prospects before you, not in imagination merely, as was the case at the Pan-American by the aerial car on the trip to the moon; and I say that the future is a bright one for the farmers of the Province of Ontario, and you can afford with me to shake hands with the future.

ADDRESS.

By J. W. Robertson, Commissioner of Agriculture, Ottawa.

I am asked to offer to you the apologies of the Hon. Sydney Fisher, Minister of Agriculture for the Dominion of Canada, who is on the programme for an address on the "Transportation of Dairy Products." Mr. Fisher had promised to attend a Convention of the Dairymen of the Province of Quebec, which is being held this week, and so could not be in two places at once. He said I might say a few things about transportation of dairy products in his stead. Of course when we start on a trip to the moon we will discover the kind of green cheese that is made there, and will find also information on cold storage, because the moon is now in that state, and I may say that we have difficulties this year which those expectations of the future will hardly help us to overcome in practice. We have some

difficulties of distance, seeing that we live about three thousand miles from our customers. Gladstone was the author of the remark that the closer the hen was to the man's breakfast plate the better the egg was. That was the remark of a statesman who knew the real meaning of things. We cannot by any means bring back an antique egg to one you would relish for breakfast. Besides distance, we have undesirable high temperatures. We try to overcome that by cold storage, and in our transportation we now have a train of cold storage from Brantford, and like places, to our customers in the United Kingdom; but cold storage does not do everything, because, although you may have the cars and the warehouses and the ships, you still need somebody's care and somebody's knowledge and everybody's honesty to get anything out of these provisions. I have known some men to leave the car door open, another man to stack his butter in the sun, and another man to have his butter go down in an open car to go into cold storage when it gets to Montreal.

It is generally known that the cheese of England and Scotland used to amount to far more than the cheese of Canada in volume, and never one of their cheese is put up into a package. They have no cheese boxes. Their transportation system does not require that. In New Zealand they put two cheese in a crate. We put ours in a box. These boxes this last year were better than they had been before then, but even last year I had reports from one of our officers in the United Kingdom that one lot of over 8,000 boxes was discharged from a steamer with more than thirty per cent. of the boxes broken. What would you think of a manufacturer of any other sort of product that sent his goods to market in such a way that thirty per cent. of his boxes were broken before they reached the customers. I say, let us have a stronger class of boxes.

The officers of our Department last year watched the loading of not less than 256 steamers to observe whether the cheese were handled carefully when being stowed on these ships. 126 steamers had cold storage, and there was not a steamer left the ports of Canada in 1894 that had a single foot of cold storage. Not less than 148 thermographs went on board. A thermograph is a self registering theremometer that gives a record of the temperature all the way across, and a record on cold storage in that way is kept independent of the engineer's charge. We had some tests made in Montreal last year with cheese put in refrigerator cars without ice, and the record showed that the temperature was three degrees higher than in a common car. There is no worse place for cheese in hot weather than a refrigerator car if it be not well iced, because it holds the heat that comes from the sun on the sides and roofs, which makes it a veritable oven, whereas a refrigerator car with ice is a capital means of keeping the butter cold. Our Department last year arranged with the railway to supply 100 cars per week to be iced at various points, and the Department paid for the icing of these cars for your cheese, besides which we arrangd with the railway companies to build cars with thorough ventilation. These cars, when tests were made, were quite four degrees cooler inside than the outside air, and that is the coming car for cheese for short journeys. The railway companies have promised that they will provide far more of these ventilated cars for the carriage of cheese for next summer. Then we have cold storage for cheese on ten large ocean steamers, where the temperature is kept under sixty degrees by the circulation of cold air. The Department pays one-half the cost of fitting up these ships. They cost about $14,000 per steamer, and will last for the ship's life time. One serious difficulty we had last year was that the butter arrived in the Old Country with mould between the butter and the boxes. Mould is only a small plant that grows from a spore. It needs air, a cer-

tain degree of temperature and moisture, as well as a food for itself. If the butter paper be of a right quality it will not allow that mould to get in, and every buttermaker can get from our Department information as to how to treat the butter paper. In the creameries controlled by the Department we turn out about twenty-five thousand packages of butter. We used to have mould four years ago, but we have not had a speck of mould on any of these twenty-five thousand packages this year.

Some cold storage plants that go under that name send reports to the Department that they are kept at 38 degrees, but when we send an Inspector to look after that we find the temperature anywhere from 60 to 85 degrees. The factory owner gets $50 the first year and $25 the second year and $25 the third year, and is sending his butter warm to the market and damaging the butter of other creameries (and I want to get that man $100 worth of cold storage hereafter), and next year we want to have the railways decline to accept from any creamery butter that is not cool. How can we find that out ? We have a man in Montreal who examined the contents of 629 car loads of butter last year. That is his business. He just stays there and examines car loads of butter as to cold storage. He pushes his thermometer into the butter and records the temperature at one inch, two inches, and three inches; and, if the car is quite cold, and if the butter gets warmer as the thermometer goes down into it, it is quite evident that butter was not in a cold place when it started. We want the railways to keep that butter out of the cold storage cars so that the buttermaker who insists on keeping his butter warm at home has a perfect right to his judgment. This is a free country, and there is liberty for the individual to do as he likes with his own. I pride myself on being a British subject. That is my greatest glory, and that is the boast of our people. We have liberty, independence, and justice, and we can apply this to our business, and I would not rob any man of his rights. So, if any man wants to keep his butter warm, give him a chance to send his butter in a car just like that. Then the steamship agents are to keep the butter out of the cold storage if it is not down to 40 degrees, so that the man who thinks butter kept in a warm place is as he wants it, shall have a chance to send his butter to England in a warm place, and may be, if he pays his patrons exactly what he gets back from England, they will keep him in warm water for the rest of the season, and may be too he will store ice next year. Instead of paying a bonus of $100 we are going to have these regulations enforced, and the man who stores ice this winter will have the very best arrangements that the Department can give.

With regard to cold storage on ships, one steamer crossed last year with the temperature as high as 56 degrees all the way across, and another 22 degrees all the way across. They should be about 22 degrees, a temperature below freezing point all the way.

Go back to the beginning of our active dairy industry thirty years ago, when there were in Canada 370 cheese factories and creameries. In ten more years about 700, in ten more years about 1,500, in ten more years about 3,500, rather better than double every ten years. That is a pretty good record for the growth of an industry.

The exports of butter from Montreal for 1894 amounted to 30,000 packages. Last year it amounted to 523,000 packages, that is a growth of not merely 16 per cent., but sixteen times that in that brief period of eight years. Notwithstanding the growth of the consuming population at home, as pointed out by Mr. Heyd, the value of the exports rose from thirty-nine million dollars up to over eighty million in ten years. Now by what means was that brought about ? Did we own any more land in Canada ? Did we have any more people laboring on farms in Canada ? I think perhaps rather fewer.

Did we have any new markets? Did we have any special stimulation, or any sort of financial help? I do not find yet in answer to any of these inquiries. What do I find? I find a marked improvement in the intelligence of the people as applied to their business. Ten years ago the farmer was thought to be a man who could work hard, and did not need to think any. I warrant there are twenty farmers around Brantford who know how to raise and feed fine hogs for bacon to every one there were ten years ago. That is not learned out of books, that is not gained from listening to lectures. That is gained through learning what comes by doing. By doing to-day a thing as best you can, and better the next time.

There has been a great development of co-operation among the people. You have co-operation among the cheese factorymen, the creamerymen, and the railways, between the salesmen and the buyers to get the best markets, and co-operation with these Associations to get the Inspectors and Instructors to spread all over the best intelligence and information. Every man making progress in these three things has improved and increased his educational attainments. This organization is one means of improving and increasing the prosperity of the people. This organization that we have here at the present time was formed in 1867, and it has been doing a great many good things for thirty-five years.

What is the meaning of organization? To save waste of time so that one man does not have to follow his butter tub from Brantford to Liverpool. To prevent waste of material and save muscular energy. That is the meaning of the school house, otherwise you might have every boy get his instruction from his father at home. If you could get one hundred and fifty boys in the school under one master and assistants you would save time. Most valuable time is wasted in our country schools, a great waste of child time in the rural schools, where a child takes six years to get as much knowledge as a child in the city schools can get in three. It is not right to let a boy stay still too long, a boy should be active. He should sit a little while, and then have a chance to go and do something. I have very great faith in the future of this country if we stick to several lines in our progress.

I will give you an instance of organization in Prince Edward Island. In 1891 Prince Edward Island had four cheese factories producing $8,400 worth of cheese, and the factories going to decay and the business sinking. On behalf of our Department I went down to organize that business, and I gave an object lesson of one well managed factory. Then we sent along a travelling Instructor. They had four factories in 1891; 42 in 1901, a product in 1891 of $8,400, and an output in 1901 of $566,000. (Applause.) 6,700 per cent in ten years. That is the education of the people, which means power. I want to give you the increase of the output of butter in the Province of Ontario in the past ten years, $1,164,000, and the increase in the Province of Quebec in the same time $3,810,000. You say Quebec went more into butter and did not keep up in cheese. Ontario gained $5,972,000 and Quebec $5,523,000; so that the whole increase in Ontario was $7,136,000, and in the Province of Quebec $9,343,000, and they are only beginning.

With regard to the use of things that grow. Get the sort that is the best. Get personal ability in the seeds you plant. You may think that that does not count for very much. I wish you had been over in England two years ago when I was there, so that you might just see one thing. I went to see the Derby—entirely to study horses. It is worth going all the way to England to see the Derby. Now, I do not want you to get a trotting horse next week. It was worth my while to go to England to see the Derby. I have seen that race twenty-five times a year since. I seem to see away back three hundred years, and then I seem to see twenty-nine colts coming up

to the starting post. I seem to see three years of steady training, because all the colts were three years old, and I seem to see three hundred years of breeding. For what? To get the quality of organism that would stand that strain for less than three minutes, that was all, and to keep up the pace to the last stretch. There were twenty-three colts came thundering on that home stretch, and, I am told, that not less than three hundred thousand pounds hung on the result of that race, and when it gets near the end the colt that can give the last three strides and end the race is the winner. It took three hundred years to give him that reserve power that put him there. It was an inherited power that came down three hundred years to him. Scatter on your fields the tailings of the fanning mill. You think that is all right because it does not cost as much as good seed! If you had the same principle in the Derby your colt would be half way around when the winning colt would be getting under the winning post. With only three years picking of the big heads, a gain of ninety-two per cent. is made, and if we had thirty years selection we would have crops that would reach down into the soil, and up into our climate, and give us six bushels per acre more, and this would mean millions and millions, and still you say it did not make any difference.

Denmark organized the testing of cows for butter, and in three years one little association of twelve farmers raised the average yield of their cows from 191 pounds to 238 pounds, an increase of 24 per cent. in three years by actual test. Talk of Russia beating us in butter! Serfs out of slavery only fifty years ago and coming close up to you. Does it look well for you to be beaten by Russia? They are coming up against you with poultry and cheese and butter and cattle. Let us get this organization, so that we will not be beaten in the race. I never knew a boy lazy towards his play or in making things he wanted to make till he is past fourteen, and if you can give a boy a chance to do the sort of work he likes it will give a tremendous impetus to the work he will be able to do. Add to the love of labor the love of locality, and of his Province and of his country, and you will get a people who will make this country advance with leaps and bounds, and they will work for the good of the country which we all love so well. (Applause.)

PRESENTATION OF CHEESE CHALLENGE CUP.

The Chairman: The next item on the programme is the presentation of this Challenge Cup. This Challenge Cup is presented by cheese buyers operating in Western Ontario, namely: T. Ballantyne & Sons, T. S. Millar, P. H. Rundle & Company, C. W. Riley, Ingersoll Packing Company, I. W. Steinhoff, MacLaren Bros., The Simister Company, Limited, Hodgson Bros., George Hately.

Mr. McKergow: I am pleased, indeed, that you have given me this pleasant and specific duty, for I think that, as one of the speakers stated, Mr. Heyd took all the eggs in the nest, and now Professor Robertson has come along and taken the nest egg and walked away with the nest, so that there is hardly anything left for me to say. I want to thank you for the invitation to come here, and for the pleasure it has given me. I have enjoyed all the meetings I have attended, and I also enjoyed the convention in Ottawa, and I think these conventions are of a very high educational order. I listened to the lecture in Ottawa of Dr. Connell on Bacteria, which I thought was exceedingly able, and I was wishing he was here to deliver it at one of these meetings. We never hear of such things as skippers and mites in our cheese at the present time. It used to be said that

when you put cheese on the table you had to be careful or it would walk off, and for years we have not had such a thing in our warehouse. The principal object of maintaining these Dairy Schools and Instructors is to benefit the dairymen, and the Government does not spend a dollar to help the dairymen that does not help the whole community. When I look back fifteen or twenty years I wonder how we ever got along. We had the heat to contend with, skippers, sweating of cheese and a number of other things but now with the cooling of cheese in cool-curing rooms, cold storage on cars and steamers, we ought to make wonderful progress. The addresses we have listened to during the last few days have been of a very high order. Professor Dean's address this afternoon was a capital one, and if I was a cheesemaker I would begin working on that acid test right away. I would commence looking into it to-morrow, and if it was the best I would adopt it.

Then we had Mr. Ruddick's address on the building of these cold storages through the country, and I hope every factory will get plans from Ottawa and act on it.

Now you have been kind enough to ask me to present this trophy to the victor. This is a friendly strife, but it requires much skill, knowledge, determination, and perseverance, to reap the reward such as we see before us. (Applause.) This beautiful trophy has been given by the buyers in this district, their object being to stimulate friendly emulation among the makers, so that they might go on improving. This is not the property of the winner unless he produces next year the best cheese. He must win at two consecutive seasons, or three times. Now, I hope, Mr. Boyes, you will make a special endeavor to win this trophy. You are going to have keen competition, and I hope you will have it, because if you do not have keen competition it will show there is not much spirit or life left among the makers; but from the sample I have seen to-day I feel satisfied you are going to meet with keen competitors, so do not fail to do your best. And if it should happen that you are fortunate enough to win it you will win a trophy that is worthy of you. If you lose it, do not be discouraged, but take a hand the next year, and be determined to carry it off if you can. I am very glad to see you are a very young married man, and you are starting out in life in a good way, and you have shown by the fine cheese you have presented to us that you have learned your business with care, and that you have acquired a great deal of knowledge, and that you have used it well. Every one that acquires such knowledge is not able to use it, but you seem to have used it for a good purpose. I am glad that you are a married man, and I am sure that Mrs. Boyes will be as proud of this as you are (applause), and if you are successful in winning it next season the young Boyes will be proud to say it was won by their father. On behalf of the Association, and these buyers who have contributed this, I have the greatest of pleasure in presenting you with this trophy. (Great applause.)

The audience sang "He's a Jolly Good Fellow."

Mr. Boyes: I am sure it is a great pleasure to be called upon to accept this valuable trophy. I understand that the buyers have given it to be accepted if won two years in succession, or three times altogether. I can assure you that next year I will do my best to win it so that I will not have to go in for it three times. (Applause.)

The Chairman: This has been a very happy time. I am very proud of the young man who has won this trophy. I got the butter trophy last year at the Toronto Industrial, but did not get it this year. Looking over the faces of our cheesemakers Mr. Boyes can rest assured he will have keen competition next year. There is no question but the intense interest the young men have taken in the discussion shows that they are picking up

every little point, and, in place of having fifty or sixty competitors, next year we will have one hundred and fifty.

CO-OPERATION AND EDUCATION FOR WOMEN.

By C. C. James, Deputy Minister of Agriculture, Toronto.

The reason why I am here is that the Minister could not come, so he asked me to take his place. The reason he is not here is that we have just started, in connection with the Agricultural College at Guelph, a special course of instruction in live stock judging, and Mr. Dryden is helping to earn his salary as Minister by giving some instruction at that place. He is a member of the staff of that special course, and, as has been stated before, he cannot be in two places at one and the same time.

Brantford must indeed be a favored city for conventions. This convention has met here twice before, and you have had other Provincial organizations meet in your midst. I do not think there is another town in the Province of Ontario that has had so many different Agricultural Conventions as the City of Brantford. I suppose you will say that there is reason for it, and that you deserve the visits of these Associations. You give them a good welcome, and it is a good central place to meet, and they must be well pleased or they would not come back. I do not think that I am stating too much when I say Brantford is perhaps one of the two most prosperous towns or cities in the Province of Ontario to-day, and I think the people of this city are quite well aware of the advantages they enjoy. I would like to say as an outsider that Brantford is one of the cities to which we, who do not live here, point to as a prosperous and progressive place.

You have a larger proportion of manufactories than any other town or any other place, and you have surrounding the city of Brantford a first-class agricultural section, in which dairying takes no mean place. You are prosperous here in Brantford, but you are not the only prosperous part of the country. Canada is to-day enjoying as great prosperity as she has known for a period of twenty years. Through all lines of work there is activity and energy, and our people are in a better position financially than we have known for a great many years, and dairying has contributed in no small degree to that prosperity. The prosperity which begins on the farm is more likely to find its way into the town and city than the prosperity which begins in the city is likely to find its way out to the country. One, however, cannot be divorced from the other, and the people of the city of Brantford are as much interested in the work of your organization as those who come from the rural parts, and who are more intimately associated with this undertaking.

The other day I was in a car travelling, and four or five gentlemen came in and sat down close to me, and they talked so loud that I could not help but hear what they had to say. And the first thing I knew the subject of butter and cheese, and pork and bacon, came up. That was quite sufficient to make me drop my paper and listen to what was said. These gentlemen were comparing the system of cheesemaking, and one was giving the other pointers as to how his work had progressed. At last one who had not been saying anything, said, "This morning I sold a bunch of hogs for $300 or $400." I forget the exact amount. They were all alert. And he went on in his quiet way to tell them how he made that. He said he made it all in six months. He had never made so much money so easily before. He said he had followed instructions carefully. He was not doing business

on the old line. He was a dairying man, but that this was a side issue, and he said that he had completely reformed his business. That man spoke with a hope and confidence, and you could see that the thing had got right into his very soul. These men began to question him, and there was a little bit of Agricultural College work, or dairy institute work, or special convention work—there was a little bit of instruction going on; and I said to myself, it is perhaps the most effective that can be given.

When we look over an audience such as we have here to-night, so intelligent and bright and wide-awake, notwithstanding the fact that you have been talked to already for two hours and a half, we cannot help but think that after all we must have faith in this industry, and that there is something coming out of it more than we have ever had in the past. We have brought the dairying interest up to enormous proportions. We have built up one of the greatest interests in the world. I suppose there is no other country in the world that can present a better and a brighter picture of dairy development than we have here in the Province of Ontario. And every once in a while, when we think there is nothing more to do we hear a warning coming from some other country. We find Australia steps in and takes part of our market with her butter; and then New Zealand steps in and challenges us with her butter and cheese; and then we have poor benighted countries like some of those in South America, who have the presumption to go in and compete with us. And then, as Prof. Robertson hinted, even that poor, bleak, dreary, snowy and frosty country of Siberia, such as we have been accustomed to think of it, is now coming into the market of the old world to contest with us for butter and cheese, poultry and eggs. The very fact that she is able to do so should prove to us that Siberia is not the cold, bleak country we thought she was. We have therefore to keep before us the fact that, no matter what we have been in the past, we can go on and improve and prosper; but, in order to keep the position we have attained, we must give the most careful attention to all the details of the business.

The question occurred to me as to what line in particular I might speak about in connection with this address this evening, and, if you will permit me, I will deal with two points and leave them with you in the form of suggestions rather than a complete argument: This is a great day of trusts and combinations, and it seems that more things can be accomplished by trusts and combinations than by individual effort. Looked at from the popular standpoint a great deal can be said against trusts and combinations, and I am not going to argue that a trust or a combine is a benefit to the world. But I want to say that whatever benefit there is in any line of work, resulting from the formation of trusts and combinations, whatever is to to be said in their favor can be applied most particularly to the industry you are representing here. We have had wonderful success in Ontario through co-operation. Our dairy interest has been built up through groups of farmers co-operating and making cheese at one central point. There is no industry in the world where co-operation found a more welcome place than along agricultural lines. Farmers work side by side producing the same thing, but they help each other with advice and assist each other with work. Now, it seems to me the future of the cheese industry will necessarily be towards the form of larger co-operation. And I think, if we could carry on the system that was started last year, of central curing-rooms throughout the entire Province so as to gather all the factories into little groups and combinations where co-operation could take place, we could give the cheese industry of this country a great upward movement. A great deal could be done in the way of purchasing supplies, and in the way

of building one common cold storage curing-room, and in the way of marketing the product, and in many other ways.

A second point. If you look back over the development of agricultural work you will find it has not gone along altogether in a rational manner. Take the question of education. Where do we begin? Where do other countries begin? They begin always with the education of the man who is going to preach to you, the lawyer and the doctor, and then we introduce a system whereby the laboring class, engineers, and the mechanical class can be improved, and then we will make some provision for the men who are interested in mining, and last of all we begin to pay some attention to that which, rationally, should come first. In the matter of education the history of the world has been entirely irrational, the professional man coming first; second, the man who works in the factory and machine shop; and last of all comes the man who, so to speak, forms the basis of it all. Take the question of agriculture. We begin with whom, when we do begin to think about this question of education? Why, we simply gather together just such a crowd as we have here. And looking over this audience, what have we? Nine-tenths of them grown men, middle-aged men. There are two classes lacking in a convention or organization of this kind. Young men, and boys and girls, who are to take your place ten or twelve years from now have little or no representation here. And another class, that is entirely overlooked, is the women from the farm. (Applause.)

Is it not about time that you stood up for the emancipation of women? I do not believe in women voting; that is the last thing I would give her, because I think it is the last thing she wants. But we have been doing very little for the benefit of women on the farm. I think it was a Chicago man who stated that the catechism settles fairly satisfactorily what is the chief end of man, but neither did it nor anything else satisfactorily answer the question, what is the chief end of woman? And he suggested the solution in these words, "To settle the servant problem and glorify domestic arts."

Now, is it not about time that we set about to settle satisfactorily the position of the woman on the farm? We have had an example set us in England. We sometimes think England is an old country, an old-fashioned country, but you will find that you can learn a lot from England. Lady Warwick has started a movement that promises to be a very, very important one. She was touched by the sight of young women being compelled to go to the towns and cities to work out a weary existence for a small pittance, and she looked out upon the country and saw the gardens, the poultry yards, the conservatories, and the dairies, looking out for trained help. And she said, "If we can only put these young women, farmers' daughters and village people's daughters, into some position so as to give them some training, and so that they can fill these places, we may be doing something to improve the position of the farm women of England;" and she asked the people of England to give her fifty thousand pounds. She said to them, "If the people of England can subscribe one hundred thousand pounds to build a college in Egypt at Khartoum, surely they can give fifty thousand pounds to build in England an Agricultural College for farmers' daughters."

We have not done a great deal in this country, but we have made a start. We are organizing Women's Institutes, and they have been fairly successful. We have no farmers' wives at this meeting in large numbers, but we have the farmers themselves and the dairymen, and the first thing you should see to when you go home is, that your wife should become connected with the Women's Institute, and, if there is no Women's Institute in your section, give your wife no rest until she sees that one is started.

We hope before a great while, with Sir William McDonald and Prof. Robertson, we will have the beginning of what I trust will be a great Agricultural College for Women in this country.

What are we laboring for in this world? If you ask the farmer, he will tell you to make a living. You ask others, who say, I am working to make money. But, unless we get some true solid comfort and enlightenment out of the world, what use is there in going through the world? What good does it do a man to work early and late on the farm, unless on that farm he is getting a home that is comfortable, bright, and cheerful.

What is the most important part of a farm to-day? Are the fields, the barn, the dairy, or stables? No. You have to go right into the house, the home, where the farmer and the farmers' wives and children are, and if you find in there that happy combination, and that comfort which ought to belong to every farmer of this country, then at once you know he is working out his life's work amid surroundings that are giving him some return in this world, and who does not have to wait for the next world to get the result of his hard and weary work. Why are a great many of our boys and girls turned away from the farms of this country? Is it because they are worked too hard? It is not hard work that drives people away from the country, for, in nine cases out of ten they are going to places where they have to work harder. It is the nature of the work, the drudgery which is caused in that work. There is very little of the home attractions there should be. I think the future of the agriculture of this country is to be found, not in our cheese factories, not in our creameries, not in our well-tilled fields, not in the big barns and the warm stables—that is not where the future of the agriculture of this country is going to turn; but it is going to turn upon the homes on the farm, and these homes are going to be largely what the women on the farm make them. Now, I say, it is our duty, and it ought to be impressed upon us as it has never been impressed upon us before, that it is time to help the women on the farm in as many ways as possible, making these homes bright and cheerful, and to relieve to a certain extent the hard, laborious work they are compelled to do. An American physician, working for the American Government, has recently told us that he has found the germ of laziness. And he has found that it is a definite organism, and that it works in a certain way, and that it is peculiar to certain districts, and he has also given us a remedy. I do not think he will say that the home of the germ of laziness is in the home of the farmers in this country. I have never yet heard it attributed to the women on our farms that they did too little work. I think the hours of labor on the farm for women are longer than for the men. It is not the fields, the fences and the buildings that give peculiarity to any farm. It is the home. And let us remember that as is the farmer's home in the future, so will be the future history of our country. Let us do all we can to help on this noble work.

ADDRESS.

By A. F. MacLaren, M.P., Stratford.

I am delighted to see so many happy faces before me to-night. I do not think I ever saw the dairymen looking so pleasant and happy in all my thirty years' experience in attending Dairy Conventions, and I think you have good reason for feeling happy this year. You have had no cheese thrown back on you, and no bad cheese. You have got a good price for everything, and you have not had to stand up at nights to turn the cheese

so as to keep them three or four months, because you have been shipping them from the hoop every two or three weeks. I hope next year you will have the same experience, and I hope, now, that you will ship your cheese out before they have time to be bad flavored, no matter what the market price may be. Sell your cheese early, and you will have none of this trouble, nor have cheese thrown back on your hands. You got your cheese off your hands without any trouble this year, and now that you are getting cold storage I hope you will not commence to make bad cheese, and then freeze them up so that they cannot be detected, but I want you to keep on making good cheese.

I also hope and trust that Prof. Robertson will carry on this good work of cold storage. I do not know what system he is going to adopt, but I must say that when he started the winter dairying business he was opposed on all sides, but still he went on, and now you can see what he has done for the country and the butter business. Although he was opposed on every hand he still fought it out and won. (Applause.) He went to Prince Edward Island and was opposed down there, and everybody said he could never carry out his ideas, but he made a grand success out there. He has told you how the start was made in one factory as an object lesson, and now you can see the progress that has been made in that Province. He also started shipping butter to the old country under Government auspices, and he made a success of that, although there was some trouble at first. I think I am safe in saying, that I know he will make a success of this cold storage business, and I hope every person here will assist him to make it a success. I know how factories are opposed to one another, and I know how jealous factories are of one another, and I know how hard it is to form a combination; but I would like to see the factories go to work and assist in developing this system of cold storage. Another thing I would like to see is central storage at all points where we have railway competition, and I would like to see all the cheese shipped every two weeks to these centres and sold there by auction, and sold after being judged and inspected, and the sales made final right in that centre. That is the place where I would like to see Prof. Robertson establish this cold storage. That would do away with our cheese markets, and do away with buying cheese subject to inspection. You could see your cheese when you bought them and make the sale final, and at the same time have your cheese kept in cold storage at that central point.

There are two other things I want to talk about. Last year in Woodstock I talked about transportation, and about lower rates for the people of this country, and I gave a great many figures showing how we were paying a very high rate of freight. The talk went all over the country. Every person spoke about it, and they are talking about it yet, but no action has been taken. I would like to see some action taken in the matter, to see if we cannot get lower rates. I think we should get our cheese, butter, bacon, ham, and eggs placed in the markets of the world for at least one million dollars less than we paid this year.

I was in England this year and saw our butter and cheese arrive in bad condition. Our cheese arrived in cold storage at a temperature of 56 degrees, and were then pitched out on the wharves and left at a temperature of 85 and 90 degrees. July was a hot month in London. I saw cheese being brought from the steamers to Tooley Street and placed in the cellars there, and I saw the oil oozing out of the cheese, and the boxes broken, and the butter boxes broken, and the canvas off the butter boxes, and everything in a deplorable state.

It is high time that the people of England should go to work and handle our goods in better shape when they arrive there and not give us the blame.

BUTTERMAKING—CREAM-GATHERING SYSTEM.

By A. Smith, Superintendent Western Dairy School, Strathroy.

In dealing with this subject of Cream Gathering Buttermaking, I wish to refer more particularly to a few experiments which have been carried on recently with a view to improving the quality of butter made at cream-gathering stations.

We find that, in the early history of these creameries, in many cases they were established by merchants, in small towns and villages, who were receiving more dairy butter than they could handle profitably. In a great many cases the farmers had small herds of cows, and were not interested to a large extent, so the business was not as profitable as it might have been, and consequentlly did not grow as it is growing to-day.

We also find in these districts that the cattle are usually of the beef type, Durham or Durham grades, and that the growing of beef is of more importance to the farmers than the production or care of the cream for the factories, and for that reason it was difficult to improve the quality of the butter by starting at the farmer himself. The introduction of the hand separator has increased the profits of the farmer considerably, and also lessened the amount of work on the farm, and where they have been introduced we find that the farmers are increasing their herds and making more butter than in the past. Improvement in the quality of the goods is somewhat slower than it should be, but, in view of the difficulties that the buttermaker has to contend with I think the progress has been fair, and I think means might be adopted to improve the quality which have not been adopted up to the present time.

The system of pasteurizing cream, more especially sour cream, has been experimented on for some time both by the Government and by individuals, and with considerable success. We have worked on this extensively during the past summer. I arranged with Mr. Creelman to allow me sufficient time to carry on a number of experiments at Ayton. These experiments were all at Mr. Wenger's personal expense. The loss suffered by inferior quality of butter, and by holding butter for a longer time than usual, was borne by Mr. Wenger. The apparatus for carrying on the work was furnished by Mr. C. Richardson, of St. Mary's, free of charge. Our method of experimenting was to take a large vat of cream, that would turn out about four hundred pounds of butter, and ripen it up to the churning point. You will understand that in these creameries, especially during the hot weather, most of the cream received is somewhat turned, somewhat acidy. It is impossible to secure cream in a sweet condition and then to pasteurize it. Therefore we had to devise a scheme of pasteurizing sour cream successfully. We ripened this cream up to the churning point, from five-tenths to six and one-half tenths of acid by the acid test. One half of the vat was churned after being properly ripened, the other half was pasteurized and then churned after it had been sufficiently cooled, and, in that way, we had butter from the very same cream both pasteurized and raw cream, so that any difference in the butter could be very easily noted. We started a little later in the season than we should have done, and it required a longer time to ripen cream. We found in pasteurizing that it was necessary to develop at least five-tenths of acid, and with over six and a half tenths of acid we

found the butter had not as good keeping qualities. We also found that we got the best results from heating the cream to a temperature of from 175 to 185 degrees. In many cases the butter from the pasteurized cream had a pronounced scorched flavor, but that flavor gradually faded away and did not develop. We also found that we got much better results from rich cream than from thin cream. There was very much less danger from the casein coagulating or showing white spots.

We had a pasteurizer built by Mr. Richardson, and, from the experiments I made, I would advise that when you purchase a pasteurizer you secure one with a much larger capacity than is required to do the work, so that the cream will be subjected to a high temperature for a much longer time than is usually the case. We found that if the cream was subjected to a high temperature for at least five minutes we got better results.

We also found that we could churn the butter after pasteurizing the sour cream just as easily, and with just as good results in every way. In reference to the quality of the butter, we had it examined by a number of different experts, and in every case, they pronounced that there was a very wide difference between the quality of the pasteurized butter and the unpasteurized; and, the greater the age of the butter, the greater was the difference in the quality in favor of pasteurizing. There were some small lots of butter made from fairly good cream, and there was very little difference in the pasteurized, and the unpasteurized until after the butter was a week old. For the first few days you could scarcely distinguish one from the other. Butter made from inferior quality of cream showed a wide difference in the start. We have some of that butter yet. Mr. Wenger and I went over it carefully recently, and found that there was a difference of at least from one to five cents a pound in the value of the butter in favor of pasteurizing. The pasteurized butter, nearly four and one-half months old, held at a temperature of from thirty-five to thirty-eight with the tops of the tubs practically uncovered, is to-day fit for table use, and I am confident that it will sell for within one cent a pound of the market price of fresh butter at the present time, whereas a great many of the samples of unpasteurized butter is fit only for confectionery purposes, and would not be suitable for the table. A number of these samples were exported to the old country. We have not got reports from more than one or two, but they were very favorable, and, in corresponding with a firm in England, I learned that the same thing is being carried on in some parts of Australia with excellent results, and they were very anxious that the system should be adopted here.

After examining the result of our work very carefully Mr. Wenger was so satisfied with the result that he has decided to equip each of his creameries with a pasteurizing outfit, and make all the butter on that system.

Experimental work in this line has not been carried on extensively in Western Ontario. I was confident from what little work we had done in the past, the scheme could be made to work, and I am now more confident than ever, and I think you will find in the future this will be a most effective means of improving the quality of the butter in cream gathering creameries, and also that if we cannot improve that butter it will not hold its own in the market. The chief defects in Canadian butter is the lack of keeping qualities, poor flavor, and excessive moisture. Our experiments have proved to us conclusively that, by adopting this scheme of pasteurizing, we can very much improve the keeping qualities of butter, and improve the flavor, and make a drier butter, and we will have no difficulty in increasing the price of cream-gathered butter at least one cent per pound, and about two-thirds of the creameries of Western Ontario are working on that system. You can readily understand that that will mean a very large increase

of profits to the farmers and the manufacturers. I do not think it will increase the cost of manufacturing more than the price of purchasing of the outfit, nor will it increase the amount of work in the factories. At the present time our cream waggons are covering too great a distance. They will have to get in earlier in the day so as to give the buttermaker sufficient time to get the cream in condition for pasteurizing and to have it cooled down within reasonable working hours. You must have an extra cream vat and plenty of cold water.

Other means of improving the quality of the butter. In connection with the collecting of the cream there should be some change. At Mr. Bennett's creamery he has adopted the plan of furnishing separate cans for each patron, some are small and some larger. All the gatherer has to do is to go around and collect this cream into the cans. When it is delivered at the factory the maker takes some out of each can for a test, and if the farmer's cream is not in condition he knows at once who is at fault, and he can tell what is wrong with it and go to the farmer and put him right.

The equipment at the cream-gathering creameries is not what it should be. It is not nearly as up to date as it should be. More especially the cream vats. They are old style, wide vats, and it is almost impossible to control the cream effectively in any reasonable length of time. The up-to-date cream vat is a deep narrow one, which will enable you to cool the cream in less than one-half the time.

Of the sixty creameries operating in Western Ontario I think there are not more than six or eight that have storages suitable for holding the butter for more than one week, and when you consider that the butter is frequently held for three weeks, a month, and sometimes six weeks, in the temperature ranging at from forty to fifty-five, you can have some idea of the quality of butter you might expect to have.

If Prof. Robertson carries out his present intentions, of refusing to accept butter that has not been held in storage below 40 degrees, it will possibly be an effective means of improving these storages. The trouble is that they are not provided with ice as they should be, and that a great many of them have been poorly constructed and the insulation is insufficient. I think it requires twice the amount of insulation that has been recommended, and, instead of two or three dead air spaces, it requires from five to six. We must insist on selling the butter regularly. Cream gathered butter is not made to keep, and, if we are going to maintain our reputation for a fine quality of goods, the butter must be put on the market as soon as possible after it is made, and must be consumed before it has time to go wrong. A great many of the buttermakers are not as up to date as they should be. They have not taken a course at the Dairy School, and know little about the theory or principles of buttermaking. They are very difficult to change in their methods.

Another difficulty we have to contend with is the large amount of so-called dairy butter that is put on the market in the cities and towns, which is not creamery butter. There should be some means of distinguishing it from creamery butter. It is injuring our goods to a great extent.

In conclusion, if we can improve our factories, increase the intelligence of our makers, put our goods on the market more regularly, we will increase the profits of the farmers and the manufacturers, promote the reputation of our butter, and be able to maintain our position in the markets of the world, and compete successfully with Russia, Denmark, New Zealand, United States and any other country in the world.

The Chairman : This is possibly one of the most important matters brought before this convention. I have sat here for two days and listened

to discussions on cheese, and they were very good, but this butter business is coming to the front, and we are going to be making as much butter in this country in ten years from to-day as we are now making cheese, and it is very important that we start right.

Mr. McFarlane : Will the white streaky butter keep as long as the butter with no streaks in it ?

The Chairman : We do not want to make that butter at all.

Mr. MacLeod : How long do you keep the cream after you get it before pasteurizing it ? and then how long before it is churned ?

Mr. Smith : The cream is delivered to the factories in the afternoon, and then, as quickly as we can we ripen it to the churning point, pasteurize it, and then churn the next morning. In cream gathering creameries we are not able to churn at as low a temperature as we would like to, because the cream is not as rich. It is a thinner cream and more difficult to churn. At the school we churned down to 50 and 53 degrees.

A Member : Do you find any loss in your buttermilk from pasteurizing ?

Mr. Smith : No. We find we can churn the cream just as exhaustively at the same temperature as unpasteurized cream.

Mr. MacLeod : Our experience was the other way, and that we should churn it at a lower temperature after pasteurizing.

Mr. Smith : I think that would be owing to the fact that your cream may not be cooled to as low a temperature quickly. You cool in a vat. We run ours over a cooler and cool it immediately.

Mr. MacLeod : After the cream is run through the pasteurizer we run it into a vat and keep a constant circulation of cool water as long as that will have any effect on it, and then, when it is ripe, we have been churning at a temperature of 48 degrees, and sometimes a little less. It takes longer to churn, but we find we have much better butter than when we allowed the temperature to go to 50 degrees and above.

Mr. Smith : Your cream was richer, and you would therefore be in a condition to churn at a lower temperature. Our cream was at the churning temperature in less than an hour after it was pasteurized.

Mr. Steinhoff : I have been very much interested in Mr. Smith's address. I believe it is along the right line. I do not wish to be antagonistic to the class of butter made under the cream-gathering system, but I do wish to use my influence as far as it goes for the improvement of the butter made in Western Ontario. I think the experiments made by Mr. Smith were in the right direction, and if we could, by other experiments, improve the class of cream that is received at the factories we will be doing a great benefit to the trade.

Prof. Dean : Would not you have better results if you had the cream delivered at the factory sweet every day, and used a culture to ripen the cream, rather than pasteurize the sour cream ?

Mr. Smith : The ideal system is to have the cream delivered sweet, and I hope the time will come when we will have it delivered sweet. There is no doubt that is the best system, but under the conditions in which these cream-gathering creameries are operated at the present time, they cannot secure sweet cream. There is no doubt that what Prof. Dean says is quite correct, that the cream should be delivered sweet and then ripened with a pure culture. If that were done we would make the best butter. But we have to accept the conditions as they are, and do the best we can with them.

Mr. Steinhoff : In your opinion would it be practical to have the men that gather cream take only the proper class of cream, and leave that at home which is not fit to make fine butter out of ?

Mr. Smith : That is the instructions given to nearly all cream gath-

erers. We find that farmers' factories are the greatest sinners in this respect. But you will understand that the average cream is not what it should be, and although you may instruct the cream gatherer to do these things you must understand he is not an expert, he is an ordinary person, and very ordinary in some cases, and very often they are engaged to draw by the hundred and are therefore anxious to get all they can. In the creameries in which I am interested, and of which Mr. Wenger has control, the cream gatherers are all instructed to reject anything which they think would seriously injure the quality of the butter. When addressing a patrons' meeting I always make it a point to have the cream drawer present, and to instruct him in the matter as much as possible.

Mr. Steinhoff : Would it be practical to devise some means to overcome this difficulty ? Would it be possible to have individual cans for each farmer, and to have the cream received by a competent person who will only receive what is right.

Mr. Smith: That is being carried on at the present time at the Russelton creamery, and I have no doubt the system will extend.

Mr. MacLeod : One objection to that is that the cream routes are too long. The man starts from home about half-past six in the morning, and it is well on in the afternoon before he gets back again; and unless you have a covered waggon, in which you can control the temperature of your cream, it gets very warm before you get it in, if you have it in small cans. I found I had considerable trouble along that line, and I am now using larger cans and still the cream comes in on a warm day at a much higher temperature than I like. I think that would be a very serious objection to using smaller cans.

Prof. Dean : I am very much interested in this experiment, and I think Mr. Smith and Mr. Wenger are to be commended for their enterprise in carrying out this work; but it strikes me that what we should aim at is to get this cream delivered at the creameries sweet, and that we should not adopt any expedient; but that we should direct our energies towards the man who is producing the cream and endeavor to have the cream delivered each day and delivered sweet. Have the cream delivered sweet, pasteurizing it when it is sweet, and ripen it with a pure culture. The quality of the butter from the average cream gathering creameries is inferior to that from the whole milk creameries.

The President : I have thought over this matter a great deal. It is a matter of dollars and cents to me, and I have now concluded to put on an experimental waggon, and to have it insulated at the sides, bottom and top, with little doors in the sides and an ice chamber on top. I am going to adopt this system of having individual cans. Some of our farmers have only two or three cows, but still they are on the route, and they might as well be accommodated, because it encourages them to keep more cows another year. I am going to have an apartment in this tank waggon for each can, and with the name of the patron, and then when the cream comes to the creameries it will be placed in a room at the temperature of 65 degrees or thereabouts, so as to develop any flavors that are in the cream, and I will make my butter makers responsible for the handling of this cream. The maker will take samples for testing the richness, and grade the cream accordingly. We will have three grades, No. 1, No. 2, and No. 3, and the farmer that furnishes me with cream that gives the No. 1 grade will get the highest price, and the man that sends No. 2 or No. 3 will be paid accordingly. The conscience of most people in this world seems to lie in their pockets, and I believe that will be the best way to touch their conscience by touching them right in their pockets. It will be some-

thing the same as the grain test that was introduced some years ago. Before that time wheat was paid for according to the eye, but to-day every mill-owner and every grain buyer buys by weight, and I believe that, if this system is adopted in creameries, we will arrive at the desirable point quicker than in any other way.

S. P. Brown : I would like to ask the per cent. of acid Mr. Smith finds best for pasteurizing sour cream ?

Mr. Smith : I do not find it advisable to pasteurize with less than five-tenths or with more than six and a half tenths.

A. T. Bell : We have not had very much experience in cream gathering. We get a little cream from three or four patrons in the winter time, and when they commence to send our trouble begins. I know for a fact that the agents in selling the separators impress it upon the purchaser that there is very little cleaning to do about the machine. They say it is not necessary to clean every time they use it. I would like to have your opinion on that. I think they should be cleaned thoroughly every time after using.

Mr. Derbyshire : "Hear, hear," that is right.

Mr. Smith : That is our trouble in the northern district. The separator agents, in their anxiety to make a sale, are willing to make statements that are not true, and they also encourage the farmers to skim thin cream, making them believe that they are getting a much larger amount, and they also tell them it is only necessary to clean their separators once a day, or two or three times a week. Now, it is absolutely necessary that the separator should be cleaned, and thoroughly cleaned, every time it is used. If the separator men would only show the farmers how to use the machines properly, it would be the means of improving the quality of the cream.

The President : The manufacturers are to blame. If they would select honest men to sell the separators they would sell more. Where the farmer takes proper care of the separators I get a good quality of cream, but quite a number of my patrons are not taking proper care of the machines, and, consequently, the result is that I have to send out circulars advising my people as to the care of the separators, and I condemn the system of selling separators as carried on by our local agents.

Mr. MacLeod : We find the same complaint in our district, that the agents in selling the separators are too anxious to impress on the people that it takes very little cleaning to keep the sparator in good condition. There is no question about it, that anything that comes in contact with milk in any way should be made thoroughly clean every time it is used. There is another question that Mr. Smith brought up in his paper, and that is the cold storage of butter. The past summer I used cold storage in my creameries. It is not as good a place as I would like to have, and I used the London cold storage for keeping the butter that I wanted to hold for a week or more. I believe that, if we could ship our butter regularly, or put it into some place where it could be kept as cool as possible, it would be better. They are now holding butter at 10 degrees below zero, and it turns out just as good as when put in. None of the creameries I have heard of are able to get more than 30 or 38 degrees. I think mechanical refrigeration is the only satisfactory thing.

Mr. Wright, of Montreal : Within the last few years the demand has been arising with relation to lower and lower temperature for butter. It is not surprising, when we take into consideration that butter is a very poor conductor of heat, and that refrigeration can only be procured after all the heat has been eliminated from the product to be frozen. If the butter is always held in considerable masses you can see it takes time to get the heat out of the butter—that is, from the interior: and unless all the heat

is eliminated the butter will not be frozen. It may be frozen on the outside, and any deleterious action can take place in the interior of the package. That has been determined positively, and consequently, if butter is to be kept and retain all its finer qualities, it must be frozen solid to the core, and that can only be done at temperatures at least as low down as zero, or lower if you want to freeze it rapidly.

BUTTERMAKING ON THE SEPARATOR SYSTEM.

By William Waddell, Kerwood.

Any maker who has not attended one of the Dairy Schools should do so at once, and make himself thoroughly acquainted with all the principles of buttermaking. We want a better quality of skimmed milk. One of the important things in the separator system is, the getting of a better quality of milk, and another important point is, cold storage for keeping the butter over a short length of time. And another point, we should sell the butter immediately and not try to hold it. Now I shall read a paper on the Separator System touching principally on certain points.

I shall speak on this subject under the head of : Economy of Management, and shall divide it under two heads : First, "Economy of Management as affecting the Creamery Owner" (it matters not whether he be an individual or a company); and, second, "Economy of Management as affecting the Patrons of the Creamery."

First, Economy of Management as Affecting the Creamery Owner. In this connection we will notice, first, the equipment, or the building and the plant. In planning and building a creamery great care should be taken to have all machinery as conveniently located as possible. The boiler or power room should be close to the work room and on the same floor level, and should be so constructed that no heat from the boiler or engine can reach the churning room in summer and should be frost proof in winter.

The boiler should be of ample capacity for operating the plant without forcing. Too much care cannot be given to the setting of the boiler, as the fuel for the production of the power for operating our creameries is coming to be a burning question. I will say to every creamery operator here to carefully examine the brickwork about your boilers, and if you find any cracks or openings that are admitting cold air have them closed at once and allow no air to enter, but such as can be controlled by the dampers, and allow no steam to escape through poor valves or other openings, but such as you are making use of. And see that the boiler is cleaned often enough that no sediment gathers on the bottom and allow no scale to form on the shell or flues of the boiler. If firing with coal, it will be necessary to clean the flues every second day, and my own opinion is, if conveniently situated to a railway station, it will pay to burn coal or a mixture of coal and wood.

No machinery, and especially no cream separator, should be allowed to run unless in perfect running order and well oiled with a suitable oil. No exhaust steam from the engine should be allowed to go to waste so long as there is whole or skim milk or water or any part of the building to be heated. If pasteurization of either whole or skim milk is followed it should be done with the exhaust steam from the engine. If pasteurization is not followed, milk should be separated at as low a temperature as it is possible to do good work and so save the expense of heating and cooling. Cream when separated should be at once cooled to ripening temperature (which should be seventy degrees or under) by means of water supply without the use of

ice, as ice in the summer season is too expensive to be used at this stage of the work. Ice will be required for cooling to a churning temperature, and this should be nearly accomplished before the cream becomes thick, as it costs too much both in labor and ice to cool a thickened cream.

It will be profitable in warm weather to make a rich cream, say 35 per cent. butter fat, as there is less bulk and expense in cooling and handling, and it can be churned at a lower temperature, giving less loss in the buttermilk.

The combined churn and worker will be found the most economical and advantageous for summer work, as the butter can be churned and worked without being exposed to the air.

Second, Economy of Management from the Patrons' Standpoint. Patrons should co-operate in the drawing of milk. Those living on a certain line should not divide up and send their milk to two or three different factories as is sometimes done, but should unite together, giving the drawer a full load, thus making it possible for him to draw the milk at a less rate per 100 pounds.

Some effort must be made to get patrons to supply a better quality of milk to our creameries. If all nights' milk for butter making could be cooled to a temperature of 60 degrees or under the maker could make a better quality of butter, which would bring a higher price, he could also get a better yield from the milk and the skim milk could be returned to the farm in so much better condition, its feeding value would be largely increased. The capacity of the plant should be such that the milk drawers will not be unduly detained while the milk is being separated. The separating should be done so that a loss of not more than five one hundreds of one per cent. is sustained in the skim milk. The cream should be rich enough, well ripened and cooled to a churning temperature low enough that the loss of fat in the buttermilk will not exceed one-tenth of one per cent.

All pipes and vats that the milk comes in contact with in passing through the creamery must be thoroughly washed and scalded each day that the skim milk may be returned to the farm in the best possible condition. Skim milk should be weighed or some systematic means used for dividing it so that each patron shall receive the amount justly due to him each day.

A cool room or refrigerator must be provided for the keeping of butter in a proper condition until sold.

Butter should be sold and the proceeds divided each month, and the earlier after the end of each month this can be done the better satisfaction will be given and the more prosperous the businss will become.

Mr. Bell : Is it possible to deliver the skim milk sweet to the patrons in the summer time ?

Mr. Waddell: That depends largely on the patrons themselves. Sometimes it is not possible to deliver it sweet, for the simple reason that the milk is not sweet when it reaches the factory; but if the patrons would take care that they deliver the milk sweet, I think there would be no trouble at all in returning it sweet at any time of the year.

Mr. Derbyshire : Does it go back to the farmers sweet ?

Mr. Waddell : If it comes to the factory in proper condition it does.

Mr. Derbyshire : Does the skim milk as a rule go back to the farmers sweet from your factory ?

Mr. Waddell : Yes, it does.

Mr. MacLeod : Do you heat the skim milk before you return it? Yes, at 160 degrees.

Q. Did you ever try it at 180 degrees ?

A. Yes, we have, but I could not tell you if there is an advantage in heating it to 180 degrees.

Mr. MacLeod : I think you will find it will keep better in the hot days at 180 or 185 degrees.

Mr. Brown : When it is heated to 180 degrees you have better results, but the fault is as much with the patron as the butter maker. In our district they leave the cans on the stand all day. If they would take the cans in, and give skimmed milk proper attention, they would not have so much trouble.

Mr. Smith : How would you recommend them to take care of it ?

Mr. Waddell : Keep it in a cool place.

Mr. Derbyshire : Do you cool this down, after it is heated up to 180 degrees, before you return it ?

Mr. Waddell : No, let it go hot.

Prof. Dean : Putting the hot skimmed milk in the cans, acts as a sterilizer, and kills any odor that may be there. If you run the hot skimmed milk in at 180 or 185 degrees you will get better results. We have followed that plan for this past season or two—of sending home the skimmed milk at 180 or 185 degrees with very satisfactory results, and I think our patrons get, practically, sweet skimmed milk all the year round.

Mr. Derbyshire : How much difference is there in that skimmed milk returned from the ordinary creamery and the skimmed milk received on the farm, provided the man had a first-class separator, and milked his cows in the morning, and as soon as one cow was milked, commenced to skim milk, and when it is done skimming, before you go into breakfast, have everything fed in less than an hour from the time the milk is received. Have it fed to the animals, and the hair growing on them in the right direction. I want to know how much more that skimmed milk is worth a pound, than the milk returned from the factory on the separator plan ?

Prof. Dean : That depends on the class of animals to which you feed the skimmed milk. For hogs, over 50 pounds and up, I do not think there is any difference in the feeding of sweet milk and sour milk, because we have experimented on that point and have found that there is practically on difference in the feeding value for the growing hogs; but for young pigs and calves there is a difference in feeding value of from 10c to 20c per 100 pounds, between the sweet milk from the separator and sour, stinking skimmed milk as returned from some creameries.

Mr. Steinhoff : There might be two answers to that question. The value of the product made has a very important bearing on that point. If you can get better milk by skimming it at the factory, that will make a better quality of butter. I think that is more important than the difference in the food value of the skimmed milk.

Mr. Derbyshire : If we can get the farmer educated to see and to know that the milk should be separated immediately, and the skimmed milk fed while warm, it will have a very beneficial effect, and we will have an extra fine lot of young animals on the farm; and if they would then put the cream into clean cans, and take care of it intelligently, and send it to the factory in first-class condition, then you could make first-class butter, but that is not done at the present time. But what we want, and what we are going to do this year, is to get to the farmer and educate him to have a better system and secure a better quality of cream all the way through, and more of it.

Mr. Steinhoff : Have you any creameries where butter is made on that system ?

Mr. Derbyshire : The best butter I have seen in the Province of Ontario, take it straight from May to November, is made at Ayton. I received this butter right along. It is the finest quality in Canada; with the No. 1 cream that is shoved into the first vat. That is the butter, and everybody loves it, and they love Mr. Wenger because he handles it, and that is the butter we are going to have. (Applause.)

Mr. Millar : Unprincipled agents have influenced the farmers so that they are producing bad cream. I was rather amused at the remarks of our worthy President, condemning the separator agents for adopting this method. The agents are simply following the methods adopted by the majority of the manufacturers. They are largely to blame, and the man that is selling is only carrying out his instructions. I have travelled around the factories for years, and I know.

The President : Old cheese instructors and buyers will know of a cheese factory up at Springbank, two miles from Forebridge, 150 feet long, solid brick building, metal roof, everything in first-class condition. They had trouble among the farmers, and allowed the business to go down, so I sent one of my cream waggons in there for cream. They went right up to this cheese factory, and they canvassed further and further till they got right to Springbank, 16 miles from my creamery. Last winter they wanted to sell this Springbank cheese factory to me cheap, and offered to rent it to me for $100 a year, so I took it and put in a cream gathering plant, and we have made there from 140,000 to 150,000 lbs. of butter. The butter that was made there ran pretty close second for the trophy at the Industrial Exposition last fall at Toronto. It was not selected cream, as some of the correspondents were saying, and the patrons were well satisfied. One of the patrons, the Reeve of that Township, put in a separator. I was around a few days after he got his June cheque. I said, Mr. Gregg, "How are you satisfied ?" And he said, "I am more than satisfied. From my experience I expected a cheque for $35, and instead of that I have a cheque for $54." I saw another farmer later on in the season and I asked him how he was satisfied, and he said he was well satisfied. "Look at my calves; I never had anything like them on the farm before. I have made as much out of the cream this year as I had from my whole milk before, and look at my calves, and $200 made out of my hogs this summer." I am pleased to say that most of the patrons in that territory furnish us with most excellent cream, and as far as I can find out they are well satisfied, and we are going to increase the make there by 50 per cent. next year.

Mr. MacLeod : I would like to refer to the differences in value in skim milk, because that question is an important one in the making of butter. Prof. Dean spoke of the hand separator making a difference in value of 10c to 20c per 100 lbs. I understood Mr. Derbyshire to ask about the difference in value in skim milk where they were sending sweet skim milk, and of skim milk from the hand separator. Where the farmer has poor milk there is no difference in feeding value. Of course we all understand there would be a good deal of difference between sweet skim milk from the hand separator, and sour skim milk that is sometimes sent home thick, perhaps as a big lump of curd in the bottom of the can.

Mr. Derbyshire : All the sugar value killed out of it.

Mr. MacLeod : What I want to know is the value of sweet milk sent home from the creamery, and that from the hand separator.

Prof. Dean : If the skim milk has been properly pasteurized, and returned to the patrons sweet and in good condition, I do not think there would be very much difference in the feeding value, except perhaps for very young animals, and there would be a difference of opinion among medical men

as to whether pasteurized milk is as easily digested as unpasteurized milk. Weight of opinion seems to be in favor of unpasteurized, or raw, milk, being more easily digested by young animals. But some experiments have been made in New York recently where some children have been fed on pasteurized milk and the results have surprised the physicians who have that work in charge, and recently Dr. Riley of the Department of Agriculture, Washington, has got some young children to experiment upon, feeding them different kinds of food to test that question. Of course we may all have our opinion, but the only way to test the matter is by experiments, and as far as our experiments have gone with animals they show there is very little difference between pasteurized sweet skim milk and unpasteurized; but medical opinion seems to be in the other direction. For ordinary farm work, if the skim milk is returned sweet from the creameries, there would be very little difference between its food value and that obtained sweet from the hand separator.

Mr. Bell : Sometimes we get the milk a little off, inclined to change, is it possible to pasteurize that kind of milk when it is just ready to go off, and return it in good condition ?

Mr. Waddell : If milk comes to the factory sour, although we may heat that milk it is not possible to return it to the farmer in proper condition. We could not take bad milk of any kind and make it good. We could not take sour milk and make it sweet. I do not think I would be a good hand to attempt to pasteurize it; in fact, it should not be mixed in with other milk.

Mr. Steinhoff : When I asked Mr. Derbyshire the question with regard to factories that have produced a good quality of butter, I thought he might answer it by naming some factory down east, so as not to make any rivalry between one creamery and another in the west. He has made a statement with regard to one creamery in Western Ontario that has produced fine butter, and I could hardly let the idea go out that the finest butter is made at cream gathering creameries. I have handled most of the butter from creameries in Ontario, and the butter that is selling the best comes from the separator creameries. As an evidence of this, you can go up to Victoria Hall, and see the butter on exhibition there made by Mr. Waddell, in Kerwood, which is universally fine from the time he starts in the spring until he finishes in the fall.

MAKING BUTTER FOR EXPORT.

By Prof. H. H. Dean, O.A.C., Guelph.

In discussing this butter question we have three classes of persons to deal with. First, the producer of the raw material. Second, the manufacturer, and third, the consumer. I propose speaking briefly on some points that will be of interest in these three classes.

The producer of the raw material, whether it be milk or of cream, must, in order to succeed in the business, in the first place have the right kind of cow. As far as I have attended these conventions and listened to the discussions I do not think we have been giving enough attention to the man who is producing the raw material, and I hope in a few words to say something that will be of interest and help to the man who owns the cow. I believe the thing that is most necessary in connection with getting good profit is a good cow, and profit is what we are aiming at. We are not in the business for fun, and, as the President has said, there is a good deal of conscience in the dollars and cents, and there are a good many scientific men along that line. If the man who is producing the raw material on the farm

has to get more conscience in that way he must have a better cow. I do not know of any other way to make a man get a cow which will be profitable to him than by getting him to weigh and test her milk. I am a crank on that point, and I have been turning that crank for a long time, and I am satisfied from my twelve years experience that the only way a man can get a cow which will be profitable to him is to weigh her milk and test it. That is not very much trouble. The average farmer cannot tell how much each individual cow gives. He does not know whether it gives 1,000 or 10,000 pounds of milk a year, and I would like to emphasize the point that every man in the butter business should have a definite plan of weighing and testing the milk of each individual cow, so as to find out the best producer in his herd. I believe it to be the interest of every man who makes a speciality of buttermaking to select cows which give a high percentage of fat. I am talking about the men who are in the butter business especially, and who do not care about the beef, or the quantity of milk, but make a specialty of buttermaking, and who want to make butter for profit. My experience is, and it is also the experience of all other men who have studied the question, that the cow that gives a high percentage in her milk will make the most profit. I do not think you could select a cow according to her form. Some dairymen have a firm and fixed opinion that there is a certain form necessary in the dairy cow. I believe that you will find excellent cows of all kinds and all forms. I have seen recently at places I visited cows of what you may call a distinctive beefy type that were first-rate milkers, and at the present time we have in our dairy stable at the Agricultural College a cow of a distinctive beefy type that is giving more milk than any other cow in the stable. We have one cow there for which we paid $200, and this cow of the beefy type is giving more milk than she is. I do not think a man could safely judge a cow from its form. The best way is to weigh the milk, and find out what she is doing. If you will do that you will in a short time build up a dairy herd that will be a profit to you. A cow to be profitable in the butter business should give at least 200 lbs. and 300 lbs., and 400 would be better. The men who are satisfied with 150 or 200 lbs. a year are not making as much as they should out of their cows, and the only way to get these cows that give 300 or 400 lbs. is to select them in the way I have indicated.

It is also necessary to feed your cows, and I think you should feed plenty of corn-silage combined with alfalfa or red clover hay, and about 8 lbs. of meal for every pound of butter which the cow is producing in the day. If you will feed a combination of corn-silage and clover hay, some mangels and that 8 lbs. of meal, you will have good results. The meal we are feeding at the present time consists of 4 lbs. of bran, 3 lbs. of oats and 1 lb. of oil cake. Sometime ago I referred to the fact that some recent investigation shows us that alfalfa or lucerne clover is very valuable in the production of cheap milk or butter.

It is not only necessary that we should select our cows properly, and feed them well, but we must give them proper care and keep them in clean, well ventilated stables. You have doubtless heard that, but it needs to be repeated. I am ashamed very often when I go into the stables of some dairymen to see the dirty, untidy appearance of everything in connection with the stable and the animals. You cannot make a clean product unless you have everything in connection with the stable and the animals perfectly clean.

I do not think the average creamery man who is handling cream on the whole-milk plan gives enough attention to the care of the skimmed milk, nor keeps his skimmed milk and tanks and pumps as clean as they should be.

I know it costs some money to clean these, but that is the proper way to do it. I believe one of the causes of so many of our men wanting to get separators, and wanting to keep the skim milk at home, is that they have been getting such abominable stuff from the creameries that they have become disgusted with it. If the men who are running whole milk creameries will pay more attention to the milk, and give the farmer what he is entitled to, I do not think he will find so many people wishing to buy hand separators.

One of the machines that we are using in connection with our work, that I would be very sorry to do without, is a skimmed milk weigher. We have used it with most satisfactory results. I think it is impossible to do justice to the patrons unless you weigh the milk out to them, or get one of these skimmed milk weighers. It works automatically. After having used it for over a year I would be very sorry indeed to go back to the old plan.

We should give more attention to the care of the cream at the cream gathering creameries. I have already indicated what I consider necessary along that line. I believe the most important point is that the cream should be cooled to a temperature below 50 degrees as soon as it comes from the separator. The cream is allowed to stand too long at a high temperature, and very often warmed cream is put in with the old cream, by doing which you start a fermentation which gives a great deal of trouble. If that point were observed, to cool the cream, as soon as it comes, to a temperature below 50 degrees, I believe that a great many of the troubles that our cream men have to contend with would pass away. I also think the cream should be delivered at the factory every day.

Coming to the manufacturer, he has to consider first the quality of his goods, and of course he has to consider the expense and profit of his business. Mr. Waddell has already referred to the question of economy in the management of a creamery. What is known as the oil test in churning has been of great service to our men who are running cream-gathering creameries. I believe that the time has come when they will require to adopt something that is more exact, something which is based more upon science and truth. I believe the time has come when the men who are managing cream-gathering creameries will adopt some test which will not require so much figuring up and down to make the test and the churning come out even. It has always been a difficult matter to make the test and the churning come out the same. One inch deep in a pail twelve inches in diameter, testing 100 on the butter oil scale, is supposed to make a pound of butter, and the creamery men who use that test have a good deal of difficulty in satisfying their patrons, in some cases at least. I know this from the letters which I received, and we get a good many samples of cream sent in from different patrons who are grumbling about the test. I believe we should begin to cast about and see if there is not some better way of testing. We have found it is quite practicable to test cream, and divide the money which is due to the patrons on the basis of fat instead of butter oil. That way is more scientific, more accurate, more exact, and I believe the patrons will be better satisfied with it. And one reason why I think it will give better satisfaction is that the creamery man can always pay a higher price for a pound of fat than he can for a pound of butter, which would be a strong incentive to patrons to adopt that plan. Of course, a spring balance would be convenient for weighing, but it is prohibited by law. You may use them for your own purposes, but not for commercial purposes. We have been trying to find out what is a creamery inch—the relation between the creamery inches when the cream tests different percentages of fat. We find that where the cream tests 15 to 20 per cent. fat we have an average of 4.2 lbs. per inch; 20 to 25 per cent. fat, an average of 4.15 lbs. per inch; 25 to 30 per cent., an average of 4.1 lbs. per inch; 30 to 35 per cent. of fat, an aver-

age of 4.1 per inch; 35 to 40 per cent. an average of 4.07 lbs. per inch.

I believe that we would be safe in adopting the standard 4.1 in this work. You can understand that the man who is sending this cream is losing slightly, and I believe Mr. Smith made a strong point on that. It costs more to take care of thin cream at the farm; it is more difficult to churn; it gives the butter maker more trouble to ripen. Why does the separator man tell the farmer to skim thin cream? Because it is more favorable for the separator to do close skimming, and there is less danger of fat being lost, and for that reason the separator agent advises the farmer to skim thin. If we adopt the standard of 4.1 and adopt the principle of paying the farmer so much per pound for fat instead of per pound for butter, I believe it will be in the interest of our cream-gathering creameries.

It has already been referred to that we require better refrigeration in our creameries. I believe the time is coming when our large creameries will have to put in mechanical refrigeration. The day for ice refrigerating is fast passing away, and our creameries might as well make up their minds that, if we are going into the butter business, we must adopt the mechanical refrigeration.

Pasteurizing. We have been preaching pasteurizing for the last eight years, and I am more firmly convinced than ever that, if we are going to make butter which will keep and get onto the markets of Great Britain in nice condition, pasteurizing, especially in the winter time, is a very essential feature. Heating the cream at a temperature of 180 degrees gives much better results than at a lower temperature.

We ripen cream at from 55 to 80 degrees. I find there is not very much difference in the quality whether ripened at 55 or 80; but I think there is danger when you get above 80 degrees. The best results are obtained when ripened at from 55 to 75, although it is possible to ripen it much higher or lower with good results. The percentage of fat has varied from 15 to 45 per cent. There was not much difference in the quality of the butter except a slight tendency to greasiness at 45 in the combined churn and worker. In the box churn not so much difference; 35 per cent. of fat in the churn gave us good results, and I doubt if it is advisable to have the cream much over 35 per cent. when churning.

We have been experimenting on ripened cream 4-10, 5-10 and 8-10 of acid. I find there is very little difference, although I think there is danger when you get above 6-10. For the export market it might possibly be advisable to use 4-10 to 5-10 acid. You get that mellow, sweet flavor which is liked in the Manchester market. The sample of butter, which had a high acid on the cream, was distinctly bleached. I never noticed that before this summer, when I found that the high acid butter was distinctly bleached.

One Point About Salting. We get orders for salt in butter from 1 to 2 per cent., 3 per cent. and 3 1-2 per cent. We find a quarter of an ounce per pound of butter will give you finished butter with about 1 per cent.; one-half ounce will give you a finished butter with about 2 per cent., three-quarter ounce butter with 3 per cent., and one ounce about 3 1-2 per cent. Salt in a finished butter varies a good deal according to the circumstances in which you put the salt into the butter. I did intend to say something about moisture, but I must not now dwell on that point.

Export Butter. We started in 1901 shipping some pound prints to Great Britain through local firms. The results were not satisfactory. We did not get any reports for the butter, and found it almost impossible to get any returns. Last season we corresponded direct with some firms in Liverpool, and sent shipments over in September of five cases holding one dozen pound prints each, and five cases holding two dozen half pound prints

each. These were all made from the same churnings, wrapped in parchment paper, packed in spruce boxes, one dozen prints in each, just one deep, and then put ten boxes into one large case. After considerable difficulty we got a report back on that butter.

It was reported that the pound prints were excellent, they were almost perfect. They said, if you can send us butter like that we can sell a large quantity, but the flavor was not right in the half-pound prints. I was thunderstruck to get a report like that. 120 lbs. made out of the same vat of cream, put in the same boxes, one-half put in pound prints and the other in half-pound prints. I wrote for an explanation, but our correspondents were unable to give it. They could only say that it was a fact. I have not got any further light on that point yet. I made another shipment, but we have not received any report of it. Our second shipment we sent it to two different firms; one lot in 28-pound pyramids. The firm who received this said they would prefer to buy the butter in the prints if it could be got over there. They were putting up considerable butter in that way. Then we sent them some in 24 lb. boxes. Instead of having a dozen in the case we put in two dozen, and wrapped them in parchment paper. To the other firm we sent 48 lbs salted, 24 pound prints salted one per cent. and a box of 24 salted 2 per cent. Part of these were put up in plain paper and part in printed paper wrappers. Up to the present time I have not received any report of that shipment.

I believe that, if we adopt pasteurizing and have refrigerators at our creameries, and refrigerator cars, and refrigerator steamships, it is possible to develop quite a trade in the export of pound prints or half pound prints. The firm with whom I have recently corresponded direct report so favorably that I believe it is possible to develop a good trade in this direction, because one of the firms says that during the winter time they receive a lot of poor butter, and that they received a lot of butter from foreign countries, and I would like to know if we cannot make better butter than they can in any other country.

I believe if we make a kind of butter they require in the markets of Great Britain and put it up in one pound prints we will do a large trade.

ADDRESS.

By Daniel Derbyshire, Brockville.

It has been said in connection with our meeting at Ottawa, as well as of your meeting here, that we have not given proper attention to the butter business, but I think this has been a very practical forenoon on butter, and that we are now giving more attention to the butter business, not only in the East, but in the West. I have been particularly delighted with the addresses that have been delivered. There is no doubt these men are doing a great work, and I think Mr. Smith possibly has been doing the best work of any of the three. He has been going from one of the little creameries to another, where they have been doing miserable work in the past, and he has warmed these people up this year, so that the butter has been worth from one to three cents more per pound than ever before in the history of the country. That is the kind of work we want. We want Mr. Smith to continue this business of reaching out into these creameries, and from them to the patrons, and having these meetings—to have him talk to the farmers in connection with the care of the milk and the feeding of the cow, and get-

ting this milk to the creameries in the best way possible. He mentioned the Russelton creamery, and I must say he did a grand work there, and the only thing I can say about Mr. Smith is that he is not doing enough of this work. He ought to get out and do more and stay an extra hour every day and get to these farmers. The kind of work he has been doing in the West has been invaluable to the butter business in the past, and I am sure that with the experience he has had he will be able to do better work in the future.

With regard to the paper read by Mr. Waddell, I must say it was a scientific paper. It just seemed as if he had written down all the smooth things in connection with the business, where nothing could be found fault with it. He stipulated for perfect milk, perfect machinery, perfect apparatus, perfect factory, and a perfect output. We know as a matter of fact that there are, out of your sixty creameries in the West, possibly only five or six fit to receive milk at all. There is no use being backward about it. I say the creamery that is not fitted up so that you can control the temperature and get the butter down to freezing point, and has not all the latest machinery of the very best kind, and is not situated so that it can be handled economically and well, that creamery is not fit to receive milk, and should not receive milk from any patrons until it is put in a position to do honest work for them. We are finding fault with the farmer, and I want to know if we should not fit ourselves up so that we will be prepared to receive this milk from the farmer, and do his work properly. It is a scandal the way some of the creameries are pretending to run the butter business, with their old-fashioned lob-sided buildings that are nothing but fly stations, where all the flies of the neighborhood congregate to do business. I say it is not right, and I believe, if I was living in a neighborhood where they had such a factory, I would see that it was properly fitted up or I would not patronize it.

We must have this thing done this year. There is no use running this business in a slip-shod way. We must have fancy butter of the finest quality. And we must land it in the old country in first-class condition, and there is no use in the Minister of Agriculture supplying us with refrigerator cars, and refrigerator ships, if we do not have refrigerators at the creameries to keep the butter in proper condition from the time it is made until it is shipped and arrives in the old country.

The young men who are engaged in this business throughout the country ought to arrange to be at these conventions. They should make it their annual holiday and be there. No one in the world can get along without the dairyman, and you ought to come to these conventions and stay the whole three days, and pay attention to what you hear, and go home and put it into practice.

I am sure that we are all delighted with the discussions we have heard this morning, and if there is anything we feel proud of it is the Canadian men who are engaged in this work, and these men are the first men in the land. I feel proud of the large number of young men who are taking a course in the Dairy Schools, and they will be raised to higher positions as they show ability.

The Chairman : I would like to say that you should never mix your warm skimming with the cold cream until it is cooled down to a uniform temperature. That is where we have great difficulty with hand separator cream. Another point with regard to the cleanliness of the creameries. It is so easy to take out the old wooden floor and put in a cement floor. Any man can put in a cement floor, and you will be surprised what an improvement the cement floor will make, and when it is done it is permanent.

ADDRESS.

By Miss Laura Rose, Guelph.

It is a great pleasure for me to be here. I always get an inspiration, and I go back to my work with increased vigor and feeling that I am doing something that is uplifting. The other day in the Dairy Department I said to some of my students : "It seems to me that when I turn out a nice batch of butter I have done something that is going to be for the good of mankind. If you can give them real good bread and butter you are going to make better men and women of them. (Applause.)

We should look at our work in that light. We hear perhaps a little too much about the dollars and cents. (Applause.) In my work I like to put that behind me, and I can truthfully say that when I am working that the last thing I am thinking of is the pay I am going to get for my work. I want to do as much good as I can for everyone who comes in contact with me, and that should be the aim of butter and cheese makers. Let his work stand out; just let him think of the beautiful cheese and butter he is going to make, and not that he is going to get so much at the end of the month. True, that is, perhaps, our first thought, because it is necessary that we should all live, and make money to live, but still let us take such an interest in our work that that part of it will be less thought of while we are at our work.

As I look over this audience I think we have here only the butter and cheese makers, and yet in all our talk it seems to me that it is the farmer that needs more education, far more education than the men we have here. It is the farmers I generally come in contact with in my work, especially these last few years. I get right into the homes of the farmers, those that produce the milk, and when I think of their lack of knowledge of a good dairy cow, and of what is expected of that cow, and of the proper means of handling the milk, why it just grieves me to think of the great loss they sustain yearly.

How are we to meet that ? I attend Institute meetings, and what do we find there ? The most up-to-date men and women that we have in the business. And then you go to the homes of those who are not there, and they are either too lazy, or too indifferent, or too conceited to come out. We must get at the farmers in their homes, and get them to see that they must help us in our work to make better butter and better cheese.

The hand separator has been spoken of. I make butter occasionally in the summer time from cream from the hand separator. Do I always find it the best kind of cream ? No. What is the matter with that cream ? It is far too sour. Did you cool that cream before it was added to the cream pot ?" "No. We never thought we had to do that." I contend that the man who sells the separator should give full instructions as to the use of that separator, and also as to the proper care of the cream. (Applause.)

Of course I speak largely from the standpoint of the home dairy, but still the handling and care of the cream is very much the same there as it is when it is to be delivered at the factory. I would not like to say all the kinds of cream I have handled, perhaps it is better you should not know. But if I had the same kind of cream to handle all the time, I would not know so much about what is needed, and I am glad I have had all these different kinds to deal with, because it gives me a much broader scope in my work. There is one thing I dislike to hear and that is the word "baking butter," or butter that is only fit for the confectionery. If I am in the kitchen I want just as good butter to put in the cake I am making, or to add richness to the soup, as I would if going to spread it on my bread.

There should be no such thing as baking butter. We should talk against it, when we know that cows give good milk, generally speaking, and that bad butter is the result of ignorance or lack of skill. I think it is a great reflection on Canadians, especially when we have conventions like this, and so much splendid literature distributed all over, free, that we should have on our markets so much bad butter, and I am going to do just as much as I can to improve the quality.

MILK RECEIVED AT FACTORIES, AS IT IS AND AS IT SHOULD BE

By George H. Barr, O. A. C., Guelph.

You have been told that I am supposed to have charge of the instruction in Western Ontario. I realize that this is a very responsible position, and I realize that there is a great field for work, and I want to tell you some of the reasons why I think so. If Mr. Derbyshire was not here I would not mind telling you something about what they are doing in the East. He thinks they are better people down there than we are in the West, but I do not think they are.

While at the Ottawa Convention last week a great many men came up to Mr. Publow and asked him if he was going to get a syndicate in their district, and that was the story all the way round, and Mr. Derbyshire says they are going to put on twenty Instructors in the East this year.

Mr. Derbyshire : Provided we can get the right sort of people.

Mr. Barr : The morning I walked into the Convention Hall at Ottawa there were ten men sitting on the platform who are Instructors in Eastern Ontario, and who had been working last summer at that work. Eastern Ontario is not very much larger than Western Ontario, but they have ten men to our three, and the question is, are the Western men going to put up enough money to pay for their Instructors. I see no reason why the Western men should not pay as much money as they do in the East. I believe the proprietors of factories get more money for making cheese in the West than they do in the East, and yet you see they have ten Instructors to our three. The idea down there at the present time is that they will syndicate the whole Eastern section, and they are going to ask about $15 from each factory. We cannot do this work in Western Ontario unless we get the support of the factorymen.

While at the Ottawa Convention two representatives of Montreal firms told me that they did not want any colored cheese from Western Ontario, especially from the Ingersoll district. They said they could get better cheese in the East, cheese that would make them more money, and give them better satisfaction. Now I do not like that a bit, and you do not like it; and I think it would be better if we had a few more firms doing business in Western Ontario. Although you may say you sell all you make now without any trouble, yet the more firms you have doing business the better it will be, and the more your business will increase. We should send around the best men we can get, and if we do so they are bound to do good, and I think they would do you more good visiting you every month or three weeks than if they only came around twice a year. Just how we are going to arrange for these Instructors is something we have not arrived at yet.

Another place where the Western men got their eyes opened considerably last year was at the Ottawa Convention of Instructors held last spring. We found that the Eastern Provinces, Nova Scotia, New Brunswick and Quebec, had a far better system of Instruction than we had in Eastern

and Western Ontario. Last year in Quebec they had forty-two syndicates and we did not have one in Western Ontario. Sometimes we think we are the only people in Canada, but when we begin to find out what they are doing among the Frenchmen and Bluenoses we find there are other people who know a little about the business as well as we do. For my part I will try to do all I can to keep Western Ontario cheese to the front, and to have it better than any other cheese in Canada. I like to get a good salary and a good living just as well as anybody else, but I do not care so much for the money as I do for the results of my work.

Give us your assistance. We want the assistance of the makers and the patrons right down to the boy that drives up the cows. We must have money to carry on this. The Government is not willing to put up all the money. I do not think they have any right to do it. I do not think it is right to give a man something for nothing. I think he will take more interest in the Instructors if he has to pay something for their services. Now if you would like a syndicate in your district talk about the matter yourselves, and if you think you can get a syndicate of twenty-five factories, let us know, and it will help us out in our work.

One of the things that surprised me greatly last summer was the number of patrons I visited who really did not know how to take care of the milk. We, as cheesemakers, are apt to think the farmers should know all about the terms we use, and all about how to take care of milk, but if you look back to your boyhood days on the farm and ask yourselves how much you knew about taking care of milk at that time, and when you see how little you know about it, then you realize that the boys who are on the farms at the present time are very much in the position that you were. I know I did not know anything about it when I left home, and I go to farms to-day and find there are thousands and thousands of farmers, in my position. So we should go to these farmers and tell them what is right, and if you do that you will assist them. There is no use trying to drive a farmer to do anything. There is only one thing you can do, and that is you must admit at the factory window only good milk. Let the patrons know that is what they have to deliver, and when they know that, they will be anxious to deliver it, and if we could only stop makers from taking in milk from other factories then we will have solved one of the greatest problems with regard to the difficulties we have in making good butter and cheese.

We will have on the road this summer what will be a benefit to cheese makers. We are going to introduce the alkaline test. Every Instructor will have to take that test around with him. I think the Instructors' time is too valuable to be spent in tracing up watered milk and things of that kind. If there was 100 pounds of water sent to a factory in one day, ten men would have to be doing a pretty good watering business to do that, how much loss would there be in the factory from that much water? Only about 80c. but if one man puts in a can of gassy milk you will lose a great deal more. We have been spending thousands of dollars to try and get these men who have been putting in a little water. Now, I do not think it is right for them to do it, and I think they should be prosecuted; but the question is, does it pay to spend so much time looking after it? I think we should try and make the patrons understand that when they send a can of gassy milk, or over-ripe milk, they are apt to lose a good many dollars, and then I think they would stop sending it. I think you might talk to patrons until you were tired, but unless you could prove to them they were losing money by delivering gassy or tainted milk it is uncertain when they would stop doing it. But the moment you convince them that is a losing game, then they will stop.

I want you to give hearty support and assistance to whoever is put on the road as Instructors this year. We need your assistance, because it is not going to be an easy job, and we want all your co-operation and assistance during the next eight or nine months.

REPORT OF NOMINATING COMMITTEE.

The report of the Nominating Committee was presented, and on motion of A. T. Bell, seconded by S. P. Brown, was adopted.

The President: I now introduce to you your new President, Mr. Connolly.

Mr. James Connolly: You have certainly taken me by surprise. However, I must admit it is a rather pleasant surprise; because it is always a pleasure to know that your services are valued, and that you have the confidence of your fellowmen. I will endeavor to do my very best. It will be very hard for me to fill the place as well as it has been filled formerly. We have had some very able men in the chair. I am well aware that it is an honorable position, so I will try to conduct myself in a manner that will be creditable to this great Association. The position is also a responsible one, but I think, with the splendid assistance I will have from the Board of Directors, we will be able to do satisfactory work. I again thank you for the honor you have conferred upon me in placing me in the chair.

Mr. Wenger: I desire to thank the Board of the past year for the kindness they have shown me as their President. I might say that I have not been as much in sympathy with them as I might have been had I been a cheesemaker. It has been practically a Cheese Board, and I have not been able to take the interest in the work that I should, simply because I am interested in butter making; but I desire to take this opportunity of thanking the Board for their kindness to me during the past year.

Mr. J. N. Paget: In moving a vote of thanks to our Retiring President I have just one word to say, and that is with reference to the remarks he has just made, that he felt the Board of Directors were all cheese men, while he represented the butter trade. I think that is something we want to get rid of as an Association. (Hear, hear.) We are not a Cheese Board. I am interested in the manufacturing of cheese, and do not know as much about the manufacturing of butter as I do about cheese; but I must say that during the ten or twelve years that I have been on the Board I have taken just as much interest in promoting the butter industry of this country as I have the cheese, and I believe I can speak for every man on the Board when I say that they are just as much interested in the butter trade as they are in the cheese trade. I think we should express our appreciation of Mr. Wenger as President, and for the manner in which he has conducted the duties of that important position during the past year, and I move that the thanks of this Association be tendered to Mr. Wenger for his services in that capacity.

Mr. Bell: I have great pleasure in seconding the vote of thanks to our worthy President, and I do not think there is any use in talking about butter and cheese with reference to our retiring President. He was just as much a cheese man as a butter man, and I am just as much a butter man as a cheese man, and I think it is a mistake to make a difference between butter and cheese. Mr. Wenger is an all-round good man, so I have great pleasure in seconding the vote of thanks to our retiring President, Mr. Aaren Wenger.

The motion was heartily carried.

Mr. Aaron Wenger : I certainly appreciate the kindness of the mover and seconder of this motion as well as the hearty manner in which you have accepted the motion. I must apologize if I have said anything that was not exactly right, but if you take up the programme of this convention you will find that there is only one short address on buttermaking, and I feel this question of butter making did not receive the consideration it should on our programme. Now with your permission I would like to have the pleasure of introducing to you Mr. Wright, of Montreal, who represents the Linde British System of Refrigeration. He wrote some good articles for the papers of Montreal last spring, and I thought so much of these articles that I wrote to the editor of the Trade Bulletin to ask if it was possible to get these articles put in book form. The editor received my com munication very nicely, but he could not at that time see Mr. Wright, or make arrangements to have them published in book form. I saved up every article written by Mr. Wright and made a book of them for myself, and I still have these articles. Now with this introduction you will understand who Mr. Wright is. He is on the platform at my request, and I have much pleasure in introducing him to you.

COLD STORAGE FOR DAIRY PRODUCTS.

By Mr. Wright, Representing the Linde British Refrigeration Co., Limited.

I am somewhat at a disadvantage in taking anything like a prominent position here, because representing an industry of that kind, I have a feeling that perhaps you might think I am trying to advertise my company and our system. However, that is not the purpose that brings me to these meetings. We refrigeration engineers have to keep our ears pretty close to the ground to hear any signals indicative of any change on the part of produce interests of the country with relation to the care, manufacture and storage of perishable products: and in this connection, I might say that for some years past I have been warning our cold storage warehouse men that a new demand is arising, and that the temperature then practiced and, to some extent, still in use, will not answer, and that experience and experiments have demonstrated that all perishable products should be carried at a temperature as low as they will bear without injury, and that is particularly true with relation to butter. You cannot carry butter in too low a temperature. This forenoon I told you the reason for this, and if you will permit me I might repeat that, because it is a matter of great importance. Butter is a very poor conductor of heat, consequently, if you want to cool it—if you want to refrigerate it—you must freeze it. Practically all heat has got to be eliminated. Every particle of heat above the temperature at which you wish the butter kept has to be eliminated. Otherwise the product will not be frozen. The cooling process comes on very slowly. Butter parts with its heat very slowly, and, inasmuch as it is in considerable masses, you may freeze it on the outside and you may keep it in the refrigerator, but unless it is frozen through to the core, deleterious action can take place in the interior of the package.

Another demand is arising, one that probably in a year or two you will hear more about, and that is the question of humidity; and it is a very important question with relation to the shrinkage of the products, probably not so much with relation to the butter as it is with relation to the cheese.

Now the purpose in the manufacture of an article is to produce the best possible product, and to endeavor to produce a product superior to

that produced by our competitors. We know that in England they do produce a cheese better than our best efforts, and the question naturally arises, "What is the reason for this ?" and I think it can be explained in two words, temperature and humidity. The climatic conditions in Europe are different to what they are in this country, and the question naturally arises, Is it possible for us, by artificial means, to produce climatic conditions similar to those existing in England ? I say without any hesitation that it is possible to produce artificially climatic conditions in the curing-room the same as exist, and better than exist, in Europe; and, where a proper manipulation is resorted to, it is possible to produce cheese in this country superior to anything they have in England, because we have greater intelligence. We have nothing to learn from the cheesemakers in England with relation to the making of the product. They have the advantage of us in climate, and that, I believe, we can produce artificially; and in a very few years you will find this is a very potent question in connection with refrigerating work generally. There is no place in connection with the curing-room or cold storage that is of so much importance as the insulation; because, if the building is not well and thoroughly insulated, you are just throwing so much good hard money out into the street. If you are building a storehouse or curing-room, and if you are going to make it of brick, I would advise you to make it a double wall with air spaces between, and, if possible, coat the outside wall on the inside with some kind of tar or pitch, so as to keep the moisture from the outside entering. Then on the inside I would make another open space of about an inch. Use tongue and groove boards with paper, and that question is an important one. Ordinary building paper is not suitable for that kind of work. If you put in cheap, ordinary building paper it will decay in a very short time, when the whole benefit to be derived from it ceases. We have endeavored to get paper that is quite waterproof, and I will tell you how you can determine the waterproof conditions of paper. If you will take a sheet of writing paper and mark it all over with a copying lead pencil, then take your paper and make a little box of it, turn up the corners, and pin them together and fill them with water, if the paper is not waterproof in a few minutes the water will work through. There is a great deal of paper that has small pin-holes all through it. You should get paper that is good all through and if it costs a few cents more a roll, pay it, because you will save the price in fuel.

We send out blue-prints describing the insulation we advise, and we will be delighted to send you a copy if you will drop a note to our office, No. 301 St. James street. It will not cost you anything, and it does not matter whether we are doing business with you or not. I would like you to keep these two things in mind, Do not put any inferior paper between your boards. Put in at least two or three dead air spaces, and if you use shavings try and get dry mill shavings. If possible hardwood shavings, and pack them well. Put the top boards on with screws, so that they can be removed to examine the insulation, when if you find that it has sunk down put in more, and it is just as well once and a while to bore in and see that your insulation is all right. Remember that you cannot make your insulation too good. I thank you for the opportunity I have had of addressing you, and I would be pleased to answer any questions you may ask.

Mr. Wenger : What would it cost for a plant sufficient to make cold storage for a room 15 x 20 x 10 ?

Mr. Wright : About $1,000. We are trying to meet that demand.

RESIGNATION OF MR. MORRISON.

Moved by I. W. Steinhoff, seconded by T. Ballantyne, jr., that as Mr. James Morrison has expressed an intention to resign his position as Instructor of this Association, we take this opportunity of expressing our appreciation of his services during the past six seasons, which have always been faithful, constant and capable. We, therefore, regret to lose an Instructor so capable, and wish both himself and Mrs. Morrison happiness and prosperity in their future.

The motion was unanimously carried.

TRANSPORTATION.

Moved by A. F. MacLaren, seconded by W. K. MacLeod, "That whereas the Dairymen's Association of Western Ontario, now in Convention assembled recognizes that, to a large extent, the greatest development of the cheese and butter industry of this Dominion can only be attained when the lowest possible transportation rates are secured from the carrying corporations to our markets, and whereas the present railway rates are not reasonable as is shown by the fact that the average freight rates in Canada are 10 to 25 per cent. higher than for similar accommodations in the United States. And whereas, in the opinion of this Association, a sufficient remedy for existing evils will not be obtained until the appointment of a Railway Commission, with full powers to regulate such rates, has been secured; it is hereby resolved, that the Board of Directors of this Association be, and is hereby, authorized and required to appoint delegates to co operate with delegates that may be, or have been appointed by other Associations, namely, The Farmer' Association, The Ontario Fruit Growers' Association, The United Fruit Growers' Association of the Niagara Peninsula, demanding from the Dominion Government the appointment of such Commission, clothed with the necessary powers to secure the desired relief" Carried.

A hearty vote of thanks was also tendered to the Mayor and Aldermen of Brantford for the use of the hall and for other courtesies.

The Convention was then closed.

DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO.

ANNUAL MEETING.

The twenty-sixth annual meeting of the Dairymen's Association of Eastern Ontario was held in the Assembly Hall of the Normal School, Ottawa, on the 7th, 8th, and 9th of January, 1903. There was a good attendance at all the sessions, a large number of cheesemakers having put in an appearance. The interest of the audiences appeared to be keenest when such practical subjects as making, handling the finished product, transportation, etc., were under discussion. The presence of the Governor-General, Lord Minto, added distinction to the gathering, and the addresses of the Dominion and Ontario Ministers of Agriculture also gave an added interest to the proceedings, while the musical and elocutionary numbers provided by local talent lent much to the pleasure of the evening meetings. Mayor Cook, and Mr. J. R. Reid, the President-elect of the Ottawa Board of Trade, were indefatigable in their endeavors to assist in making the Convention a success, and were deservedly thanked for their hearty co-operation with the officials of the Association. It was the generally expressed opinion that the Convention, taken all together, was one of the most successful yet held by the Association.

PRESIDENT'S ADDRESS.

By D. Derbyshire, Brockville.

Another milestone has been passed, and our eastern dairymen are to have the pleasure of holding this twenty-sixth annual convention in the capital city of the Dominion. Mayor Cook, Mr. John R. Reid, President of your Board of Trade, and leading citizens generally, have given us a royal reception, and done everything possible to assure the success of our annual gathering. You will all be greatly pleased that His Excellency the Governor-General of Canada has kindly consented to open this convention, and thus encourage our dairymen to go on making a finer quality, and a larger quantity of cheese, butter, and bacon for the British market each succeeding year.

It is a long time since you have had an important dairy meeting in this city. With the excellent staff of speakers we have, and the large attendance that is assured, we hope to have a very profitable convention. Very few in this section realize the importance of our work. We made about 2,500,000 boxes of cheese in 1902, valued at $21,000,000, and 613,846 packages of creamery butter, valued at $9,000,000. So our make of cheese and butter in 1902 came to $30,000,000, consisting of what we exported from the first of May, 1902, to the first of January, 1903, and have on hand at that date, not counting anything for what we consumed. If we add our hog products —$15,000,000—to our cheese and butter, which should be done, we have the nice sum of $45,000,000, that our dairymen have produced in 1902. We feel proud of this record, and we are certainly in a fine position to do better work in 1903.

You dig $45,000,000 out of the gold mines of the Klondike, and the wealth of the mines is then exhausted. There is nothing left. You make $45,000,000 out of dairying, and, in making that sum, you create a plant—

in factories, in cows, and in stables—which makes it easier to produce $50,000,000 from the same industry next year. That is the difference between mining and dairying. (Applause.)

The Department of Agriculture for Ontario, under the direction of the Hon. John Dryden, in addition to giving us the usual grant, employed Mr. Publow after the close of our dairy school, to take charge of twenty-five factories, visiting them frequently, and the result of his work was very satisfactory; so much so that we have recommended the Hon. Mr. Dryden to continue Mr. Publow as instructor in cheesemaking in our Dairy School, and have charge of all our instructors the coming season, and Mr. Hart, who did good work last year, to look after our butter makers. Our instructors must all take the special instructors' course, so they will all give uniform instruction, under the direction of Mr. Publow. We think this will be a step in advance, and we will employ twenty instructors in eastern Ontario, in place of ten, as at present.

Our Dominion Government, under the direction of the Hon. Sydney Fisher, has given us an illustration station in Eastern Ontario at Brockville, which has been of great value to us, showing the great benefit of curing cheese at a uniformly low temperature. I bought a large quantity of the cheese cured in our station, and was very much pleased with them. I am sure this will have a healthful influence on all our factories. A large number have already put their curing-rooms in first-class shape, and every factory should be fitted up in good shape before commencing another season's operations. We have had refrigerator cars for our cheese as well as butter, and we trust the Hon. Sydney Fisher will enlarge the service, both on our railways and steamships. Our cheese and butter were never delivered in such fine condition as they have been the past season. Our transportation companies have never given us such good service, and we hope they will do even better the coming season.

Can I say anything that will arouse all our dairymen to do better work, to co-operate with this Association and our chief instructor, Mr. Publow, in selection of your maker, in forming yourselves into sections of about twenty-five factories, in selecting your instructor, in fitting up your factories, in securing proper drainage, in beautifying the grounds around your factories? In short, let us assist you in every way possible, so that when the make of 1903 goes forward, it can truthfully be said that Eastern Ontario still leads in the manufacture of fancy cheese, butter, and bacon.

We have been urging all our instructors and makers to attend our Dairy School, so they can do better work, but our accommodation is very limited. We must have larger buildings and everything the best so that all our makers can be accommodated. I desire to draw Mr. Creelman's attention to this, and I feel sure he will see that Eastern Ontario is fairly treated. Our present Dairy School is not more than half large enough. We want to reach the producer of the milk this coming season more thoroughly than ever before, because more real advancement can be made in this direction than any other, and our makers and instructors must attend to this. If I only had every producer of milk, every maker and every proprietor of a factory here to-day I would make one supreme effort to arouse them to a sense of duty for their own good as well as that of the patrons. Improvement all along the line should be the watchword. Let that poor old cow, that never gave milk enough to be profitable, go; build a proper stable so the cows you have can be kept comfortable; grow corn and plenty of it and build a silo so you will have plenty of cheap succulent food; milk regularly and in the same order and by the same milker, and you

will be greatly surprised in the large amount of additional profit even from the cows you have. See that you have a covered milk stand situated in a clean, airy place, and do all you can to have this delivered to the factory in the best possible condition. Your cheesemaker should be bright, clean and cheerful, and a graduate of one of our well equipped dairy schools, with a good factory, clean and neat, and proper drainage. If best results are desired, the patron, cheesemaker and all concerned must work together, and I am very anxious that Eastern Ontario should all unite.

We do not want more factories, but better factories, with a larger patronage so we can do better work. Most of our inspectors have done good work. Hon. John Dryden has given us every encouragement in our work, also the Hon. Sydney Fisher. Both Ministers are anxious for the dairymen to make fancy goods. Prof. Robertson has, as usual, been of great assistance. Mr. Ruddick, chief of the dairy division, has been active, doing good service. The $45,000,000 produced by our dairymen in 1902 can easily be made $50,000,000 the coming year, and I feel sure it will be. We are making steady advancement and healthy expansion, and we want the good work to continue.

Since our last meeting we have lost our Treasurer, Mr. Daly, an old and tried friend. We all regret this very much. It will be our duty to appoint a successor.

We have all looked forward to this 26th annual convention to be held in your beautiful city with great pleasure. No city in this Dominion is making the progress that Ottawa is, and the dairymen wish you every success. We hope before this convention adjourns to interest your citizens and this section in the greatest industry in the country. Once more let me thank you, Mr. Mayor, Mr. J. R. Reid, and your enterprising committee for your assistance and grand reception, and I trust we will have the best convention ever held in our Dominion.

COMMITTEES.

The following committees were appointed :
Business. Mayor Cook, R. G. Murphy and John R. Reid.
Nominations. J. R. Dargavel, Jas. Whitton and Wm. Eager.
Legislation. E. Kidd, A. A. Wright, R. G. Murphy and H. Wade.

BRIEF SPEECHES.

The President then called upon a number of gentlemen for short addresses, and the following responded :

Mayor Cook stated that as he had to give a more formal welcome to the Convention at the evening meeting he would not speak at any length just at the moment. He very much appreciated the kind allusions to Ottawa in the address of the President, and wished to personally thank him for his inspiring words.

Principal Putnam, of the Normal School, on behalf of the Department of Education, was glad to have the honor of welcoming the Association. He then proceeded to say : When the President was telling how a cheesemaker should go among his patrons and tell them how to improve, I could not help thinking that he must have been an old teacher, who would be able to tell young teachers to visit parents and get to understand them.

During the last quarter of a century Canada has greatly advanced in the dairying line, as well as in other respects. The remarks of the President about the possibilities of the future, and the wealth of dairying and agriculture generally compared with that of the gold mines, was, I think, very well put. We often find that the men who will break their necks in trying to get rich in gold-mining are the very fellows who will not keep their milk cans clean. One does not need to go out of this city to see the need there is of such meetings as this to improve the dairy habits of some dealers. I can go to the Ottawa market and get nearly as many grades of butter as there are sellers. They would grade in price from the cost of axle-grease to 25 cents a pound. You dairymen can sell at fancy prices to the large hotels and the best shops ; but I suppose that the kind of butter I have described as being sold on our city market is a fair sample of fifty per cent. of the butter made in Canada. Your Convention is held with the object of getting the people to do better, not only in making butter and cheese, but also in regard to methods of transportation and marketing. I believe that no industry in Canada is more important than yours.

G. C. Creelman, Superintendent of Farmers' Institutes : I did not come here with the intention of making a speech, but circumstances have permitted me to be present to listen to the valuable addresses which I expect to hear, and the discussions which shall follow. I have, therefore, no special message to this important body. I attach great value to the influence of this and kindred Associations. Every member of the Department of Agriculture also feels the importance of the dairy industry. As Superintendent of Farmers' Institutes I have endeavored to co-operate in helping on this great and ever growing branch of agriculture known as dairying. We have frequent requests for assistance from dairymen in our work of Institutes, and we sometimes have difficulty in meeting the needs of every case. We are not always able to give you the help we would wish. At present there is a small majority in the House, but I am glad to say that this is not a question of politics. We have in our work of agricultural education got above the petty quarrels of party politicians. Both parties recognize the importance of the work of our Farmers' Institutes, our Dairy Associations and the various Societies at work in the effort to advance the cause of agriculture and the Legislature is now ready to help the farmers just because they deserve it. I was pleased to see representatives of the Dairy Associations and Farmers' Institutes meeting together a week ago in the office of the Minister of Agriculture, to further develop a system of dairy instruction, and to know that they are working together so harmoniously in the interest of agriculture and of the country generally. We are trying to get, more than ever before, to the individual farmer. (Applause.) In all our work as Associations or Institutes we should endeavor to get right close to the individual farmer. If we are to increase our exports by millions, we must get right down to the man behind the cow—to the man who produces the milk. If we do this, I believe that in a few years we will be talking of $100,000,000 where we now talk of $45,000,000.

J. A. Ruddick, Chief of the Dairy Division, Ottawa, made a brief speech of welcome to his fellow-dairymen, and promised some fuller remarks later. He said that he believed that the visit of the members of the Association to Ottawa would be of great benefit to agriculture, not only to those on the Ontario side of the river, but also to their fellows in the Gatineau Valley.

John R. Reid, President-elect of the Ottawa Board of Trade, extended a hearty greeting to the Association. Among other things he said: I have

always taken a deep interest in dairying. I was for five years engaged in the business of buying cheese in Brockville, where I came close in contact with my friend the President of your body. I can endorse all that has been said by the President and the other speakers about the importance of the dairy industry. I call agriculture our country's backbone. I believe that the dairy feature is the largest branch of agriculture. The amount of our exports give us some idea of the vastness of dairying in this country. We have been pleased to invite your Convention to the capital city, because we thought it would be a good thing for the great Ottawa Valley. So far this city has not arrived at the importance of Brockville and Morrisburg as dairy centres, but we hope to improve in this respect. We have formed a Cheese and Butter Board in Ottawa. Five years ago we started with a very small beginning, but we now have 43 factories boarded, and the amount of money paid to farmers has amounted to $265,000. I believe that the point to be most emphasized is that touched upon by the President and Mr. Creelman, namely, the importance of individual responsibility, and bringing this fact to the individual dairyman. Wherever I go through the country I look into the cheese factory, if possible, and drop a word by the wayside, so to speak, in a tactful way.

Prof. Robertson: I think it is a most happy occasion for the Dairymen's Association of Eastern Ontario that you have had the Mayor of Canada's capital in the chair at your first session; that you have, also, had the President of the Board of Trade acting on the reception committee; because this recognizes your work for Canada as perhaps nothing else has done before. Too many people think that dairying consists in selling milk, whereas the sale of farming products manufactured by the farmers is the most important manufacturing industry in this country. I congratulate this Association on the great progress of the dairying industry, and on the attitude and spirit which this Association has always manifested towards those who have come to it for instruction, for sympathy, or for support. (Applause.) I agree with what the President said in his words of congratulation and high approval of the means whereby higher prosperity could be found by you men who are engaged in this business. Nothing is gained by denouncing anbody; but everything is gained by praising with discrimination, where he can, and the man who praises discriminately will get better goods all the time. This dairying business is a sure thing for the people of Canada for good, and for good only. It means that we have great resources here to be developed by intelligent labor; and it is always bringing good—nothing else follows in their wake. The means of development have been various in the past, but they have been education only and always. And it is another happy feature that the leading educational institution in Eastern Ontario has placed its hall at your disposal. This education means that there are means by which a man who looks after the cow, and the man who transports the produce, are each enabled to do their work in the best possible mnner to the advantage of themselves, their employers and the community at large. We are glad to do all we can to enhance the interests of dairying and the cognate interests of farming. While the press of Canada has been generous in its space and its comments, after all that information is at best but second-hand to the man who has the work to do; but if this Convention does its best it will lead men to go and get information from observation; because the information one gets by doing so is better than anything he can read or obtain second-hand. This Association has done good in a large way. Get in this Association; become a branch of different Associations for specific purposes. Let me indicate one line. We have learned a good many things

from Denmark in the past—the one country that stands out pre-eminently —where dairying has made the greatest strides, and has brought the greatest successes to its people. One of the latest things the Danes have done is to get farmers to join farmers' testing associations, the members of which agree to test their cows, not in a finnicky keeping of records which means having a lot of figures which indicate nothing; but to keep records so that either poor cows may be made better or that nothing but good cows shall be kept in the country. They have now 250 such associations. From 1899 to 1902 they raised the average production of butter in the herds of all the members of the Association by 47 pounds of butter per cow, and that is not an exception in the results of those testing associations. It is the means of helping the individual farmer to have some sense and some skill in managing his business; and I throw this out to see if you could not form ten such associations, and our Department will do all we can to inform you of what the Danes have done, so that you can begin on the lines they follow, and improve upon them to the benefit of dairy farming. You are giving the people ability to manage their work well at their own place, that they may be happy, contented and prosperous in the part of Canada where they live; and, without any sense of reproach to the west, I hope this Association will try to keep Eastern Ontario in Eastern Ontario. (Applause.) Very often we are led to esteem more highly the labors of the men who live afar off from us and whom we see but rarely, whereas the officers of the Association who have been working for twenty years amongst you have been the greatest benefactors to dairying. I am reminded of a beautiful preface I read to a remarkable book. A man had been choosing his ideal of youth and beauty. For a long time he had been following it across mountains, plains and deep fiords, and he could not identify this fleeing vision. By and by he got closer, and clasped the ideal in his arms, and found—his wife. There's many a man who believes the best is elsewhere; while the real facts to my knowledge are that the men who do the best work for you and your part of the country are in your own district, and in your own Association.

Freeman Britton, editor of The Gananoque Reporter, was introduced as one who took a keen interest in matters pertaining to agriculture. One thing about his attending conventions was that he had always something in the way of information to distribute when he returned home. He had always thought, as the President and Mr. Creelman had said, that we should get down to the individual. When he left home there was a police court case going on between a cheesemaker and one of his patrons. There had been a good deal of competition among factorymen in the Gananoque district. Three or four factories were so close together that they could almost fling a stone from one to the other. Some of the cheesemakers had been buying patrons at from $5 to $20 apiece. This farmer claimed that he left one factory and went to another because the maker had offered him a premium of $20. At the end of the season he claimed the $20. The cheesemaker denied the fact that a bonus or premium was offered, and said that the man was a liar. The farmer said he could prove it by his father. The cheesemaker said the father was even a bigger liar than the other. The result was an action for abusive language. However, the dairy business was prospering. Farmers had made more advancement during the past fifteen years than in the previous twenty.

Thomas Macfarlane, Chief Analyst of the Inland Revenue Department, also welcomed the Convention to Ottawa. This was not the first time he had been at meetings of the Eastern Dairymen's Association. He agreed

with all that had been said as to the degree of skill and intelligence with which the dairy business was conducted in Canada. He hoped to have an opportunity to address the Convention later on.

J. Stevenson, President of the Ottawa Cheese Board, briefly but heartily welcomed the delegates to Ottawa. The district was a small one from a dairy standpoint, but it was steadily growing.

The President: The Ottawa people are now beginning to boast of their dairying; at first they claimed to make the best cheese, and at the Cornwall banquet the same story was told of Cornwall. Well, such rivalry and local patriotism was a good thing, but Brockville district still claimed pre-eminence. (Laughter.)

IN MEMORIAM.

Moved by William Eager, seconded by J. R. Dargavel, "That the members of the Eastern Ontario Dairymen's Association desire at this meeting to express their profound sorrow at the recent death of their esteemed and trusted Treasurer, Mr. P. R. Daly. He was a gentleman of thorough business habits, honorable and upright in all his transactions, and so genial and courteous in his intercourse with others that he had a warm place in the hearts of all, and is remembered with respect and affection. To his wife and daughter we extend our sincere sympathy, and assure them that we share in their affliction; and that a copy of this resolution be sent to Mrs. P. R. Daly."

The resolution was adopted by a standing vote.

DOMESTIC SCIENCE.

By Miss Bessie Livingstone, Normal School, Ottawa.

Household or domestic science includes the study of all conditions tending towards right living. This subject has been introduced into our colleges, public schools and dairy schools, and is very closely attached to the dairying interest. Although it is a comparatively new thing in Canada it has been studied abroad for many years. In the British Isles it is taught as an art, and is called domestic economy. In Canada and the United States we call it domestic science in the lower schools, and household economics in the universities, the latter term being used to include not only the principles of right living in the home, but the good of cities, municipal housecleaning and similar questions.

As to the financial advantages of household science, it is scarcely necessary to dilate upon them before an audience of dairymen who know the advantage of applying scientific principles to the making of cheese and butter. If the latter has added to our individual and national wealth, I believe that scientific housekeeping will do infinitely more. The financial management of the home and of the nation are closely allied, and in the German schools the girls are taught to apply the principles of good management to both. Among ourselves there is no subject less understood than the financial administration of either the nation or the home, and it is one in which men and women should co-operate. I know all about farm life myself. I have done everything on the farm except plowing, and I believe that much of the hard, unnecessary labor done by the women, and much of the closeness in many matters which they are compelled to en-

dure is due to the ignorance of the men regarding the financial side of domestic matters and their consequent unwillingness to spend the necessary amount of money upon them. I have seen many of the farm homes of Canada from one side of the continent to the other, and have seen every evidence of wealth in barn, field and dairy, and yet the kitchens were badly equipped and the women were kept short of money.

Men should look into domestic affairs and see that their wives have a sufficient amount of money to conduct them properly. They used to have the cheese and butter money. You have taken that away from them and I do not know whether or not you have provided a substitute. (Hear, hear.)

The President: I have heard of a substitute for the butter money; the speaker was quite right in what she said.

Miss Livingtone: Every man who is interested in the progress of agriculture and dairying should be interested in the progress of domestic science, and should be willing to spend enough money to place the domestic affairs of his home upon a proper basis.

One great advantage will come from improvement in the social side of life. (Applause.) Our girls are leaving the farm no less than the boys, and I would not have either stay there wholly. Every city needs fresh blood, such as only comes from the farms. The average London family dies out in three generations, and it would be a bad thing for the progress of the world if the boys and girls all stayed on the farm. Our best minds in the professions to-day come from the country, not because the home conditions there are so good, but in spite of them.

But we want to keep some of the boys and girls on the farm, and household science will help us to do that by making life there pleasanter. In the first place it will give the women a margin of time. In spite of all our modern progress, the women are as busy as ever. We have taken all the spinning and weaving and soap and candle-making out of the home; but still the women are overworked. This comes from lack of knowledge, and household science would lighten the burden. It would also train them to use this margin of time wisely.

Perhaps the time will come when farmers and their wives will have an annual holiday. Many of them now go on working without interruption day after day, and never have any time for pleasure or mental culture.

I know wealthy farmers who take only one weekly paper. Such things explain the many complaints that we hear about farm drudgery. There is nothing to brighten life. Literature on the farm and the study of how to spend leisure time is a part of household science. A few good magazines and one or two good papers, which in the near future, perhaps—through the instrumentality of the free rural mail service—will include a daily paper, will help to make the boys and girls stay on the farm. And farming is destined to become one of the noblest of professions. It is my own ideal of perfect happiness.

In conclusion Miss Livingstone said a few words as to how this education might be obtained. Travelling teachers were going through the country, she said, and the subject had been introduced into the dairy schools. A splendid course would soon be introduced at Guelph, and three, six or more months there would be a wonderful advantage not only to the student but to the home to which she returned. Another opportunity would also be provided through that "splendid movement" for the consolidation of rural schools. Here the children would have advantages, such as were impossible in the old schools under a single teacher, and would be taught by trained specialists in manual training, domestic science, drawing, music and other branches.

The President : If there were more girls as accomplished as Miss Livingstone what happy men our farmers would be, and what delightful homes they would have. (Laughter and applause.)

THE WORK OF THE EXPERIMENTAL FARMS.

By Wm. Saunders, LL.D., Director of Experimental Farms, Ottawa.

In 1886, when the Act was passed by the Federal Parliament giving power to the Government to establish five experimental farms in the Dominion, agriculture in Canada occupied a very different position from what it does to-day. Two years prior to this, in 1884, the House of Commons appointed a Select Committee to inquire into the best means of developing and encouraging agricultural interests of Canada. This committee held many meetings and took evidence from a number of prominent farmers, dairymen and stockmen, as to the condition of agriculture in various parts of Canada. In the report subsequently submitted to the House of Commons, the substance of the evidence taken was summarized as follows :

"It appears that there is a large amount of defective farming in this country. In the cultivation of cereals, roots, and grasses there is want of periodical change of seed, selection of improved varieties, a proper rotation of crops, with a lack of thorough tillage, and a knowledge of the value and suitability of manures. The value of manures is, in many cases, unheeded, and much fertilizing power is lost through negligent exposure and the waste of liquid manures. In stock raising the chief deficiencies are the want of pure-bred males, lack of knowledge of the adaptability of breeds to particular conditions throughout the Dominion, the want of better pasture and more abundant tree shelter. In the production of butter the milk is frequently not properly cared for, nor is suitable attention paid to the selection of milch cows, and the food given is often deficient in nutriment and in milk producing qualities.

"Low grades of butter are attributed to want of skill in its manufacture and want of improved apparatus. In cheesemaking the need of greater skill and want of scientific knowledge is also felt. In the cultivation of fruit a great want is experienced, in many sections, of hardier varieties and of varieties with improved keeping qualities. There is also a deplorable want of knowledge regarding the insects and diseases injurious to fruit trees."

This committee recommended that the Government establish an experimental farm or farms, where experiments might be carried on in all branches of agriculture and horticulture, the results of the same to be published from time to time and disseminated freely among the farmers of the Dominion.

The Experimental Farms Act was introduced during the session of Parliament in 1886 and received an almost unanimous vote. The farms were selected and established during the next two years, care being taken that they should be so located as to be fairly representative of the larger settled areas in the several provinces in which they were placed.

Sixteen years have passed since the work was begun. During that time persistent investigation and experimental research have been carried on along all the lines of work bearing on the prosperity of agriculture in Canada and a great mass of important facts has been accumulated, and the practical informtion gained has been freely distributed in

large editions of the sixteenth annual reports, which have been issued and the forty one bulletins which have been published on special subjects.

The principles which underlie successful crop-growing may be thus summarized :

(a) Maintaining the fertility of the land by the proper care and use of barnyard manure and the plowing under of green clover, thus adding fertility and humus.

(b) Adopting a judicious rotation of crops.

(c) Following the best methods of preparing the land.

(d) Early sowing.

(e) Choosing the best and most productive varieties

(f) The selection of plump and well ripened seed.

Along these lines many experiments have been conducted.

Continued efforts have been made to gain knowledge as to the best methods of maintaining and adding to the fertility of the land. In this connection special attention has been given to investigations to determine the best methods of handling and using barnyard manure, the universal fertilizer, which is more or less available everywhere to the average Canadian farmer. Experiments continued for eleven years, have shown that a given weight of manure taken fresh from the barnyard is equal in crop-producing power to the same weight of rotted manure. It has also been shown by repeated tests that fresh manure loses during the process of rotting, from 50 to 60 per cent. of its weight. The effective use of barnyard manure so as to obtain the best results with the least waste is, without doubt, one of the most important problems connected with successful agriculture, for on this material the farmer's hopes of maintaining the fertility of his land, and thus providing for a succession of good crops, are mainly based.

For a period of eleven years annual tests were made to gain information on the relative value of artificial manures, used separately and in combination, on nearly all the more important farm crops, and the average results of this work have been published. These continued experiments with artificial fertilizers used alone, have given results which are disappointing, considering the large proportion of available plant food they contain. One reason for this probably lies in the fact that these fertilizers contain no humus and that the proportion of vegetable matter in the soil has been much reduced by constant cropping. The capacity of the soil for holding moisture has been lessened, to the detriment of its crop-producing power.

Experiments have also been conducted for several years in the plowing under of green clover to enrich the land, and it has been demonstrated that clover seed can be sown in all the eastern provinces of Canada and in the coast climate of British Columbia, to advantage, with all cereal crops, without lessening the grain crop for the current year, and that after the grain is cut the clover grows luxuriantly, acting as a "catch crop" during the latter part of the season. Green clover is specially valuable to the land, for the reason that it absorbs, while growing, large quantities of nitrogen from the air, which are stored up in its tissues. A heavy mat of growth is produced by the autumn, which, when plowed under, adds considerably to the available nitrogen in the soil as well as to the store of humus. The proportion of nitrogen thus added to the land by one crop of clover has been found to be equal to that obtained from a dressing of ten tons of barnyard manure to the acre. Considerable supplies of potash, phosphoric acid and lime are also taken up by the clover plant during its growth, a part of which is gathered from depths in the soil not reached by

some other farm crops. In this way the clover is practically an enricher of the soil, to some extent, in these other important elements.

That the turning under of clover has been of great advantage to the soil has been shown in the growth of the following crops:

As a result of the experiments in growing oats after the plowing under of clover, twelve trials have been made in all, covering a period of four years, and in those experiments the average increase in crop from this treatment has been seven bushels per acre when compared with plots adjoining on which no clover had been sown. Similar experiments with barley, covering nearly the same period, have shown an average increase in the grain of eight bushels thirty-one pounds per acre.

Seventeen experiments have been tried in the same way during three years, with Indian corn, and these have shown an average increase in the weight of the green corn, cut for the silo, of 3 tons 1,694 pounds per acre.

In experiments with potatoes, the average of a test covering a period of two years have shown an increase from the plowing under of clover amounting to 33 bushels 20 pounds per acre.

This is a very important question, especially to farmers of the eastern provinces, where clover can be easily grown.

The advantages arising from the plowing under of clover may be thus summarized :

There is an enrichment of the soil by the addition of nitrogen obtained from the atmosphere; and an increase in the store of available mineral plant food (phosphoric acid, potash and lime) in the surface soil taken by the clover in part from depths not reached by the shallower root systems of other farm crops.

There is a large addition of humus, whereby the soil is made more retentive of moisture, warmer and better aerated, conditions favorable to vigorous crop growth. Humus also furnishes the material best adapted for the development of those forms of germ life that act so beneficially in the soil. As an agent for deepening and mellowing soils no crop gives such satisfactory results as clover.

Clover also serves a useful purpose as a "catch crop" during the autumn months, when the ground would be otherwise bare, retaining fertilizing materials brought down by the rain, and also that formed in the soil during the summer months, much of which would otherwise be lost through the leaching action of rains.

Increased Crops from Early Sowing.

That increased crops result from early sowing has been fully demonstrated by the tests carried on at the Experimental Farms. These experimen plots of one-tenth of an acre each, on land very uniform in character. The same preparation has been given to the soil in each case, and the same lots of seed have been used for each sowing. Forty-eight plots have been devoted to this experiment, eight of which have been sown at the very earliest time practicable with two varieties each of wheat, oats, barley, and pease. A second series has been sown at the expiration of a week, and others at the end of each subsequent week, until six successive sowings were made. These plots were all harvested and threshed separately. The best crops have been had from the scond sowings, made just one week after it was possible to sow the seed; beyond this, delay in sowing has resulted in loss, which has become more serious as the delay has been greater. The average of the ten years' experiments shows as follows :

With wheat, a delay of one week beyond the period named has entailed a loss of over 30 per cent.; two weeks, 40 per cent.; three weeks, nearly 50 per cent., and four weeks, 56 per cent. of the crop.

With oats, a delay of one week has caused an average loss of over 15 per cent.; two weeks, 22 per cent.; three weeks, over 32 per cent., and four weeks, about 48 per cent.

In the case of barley, a delay of one week has resulted in an average loss of 23 per cent.; two weeks, 27 per cent.; three weeks, 40 per cent., and four weeks, nearly 46 per cent.

With pease, the loss in crop from delay has been less. A delay of one week has lessened the crop to the extent of 4 per cent.; two weeks, 12 per cent.; three weeks, 22 per cent., and four weeks, 30 per cent.

The results of these experiments have led farmers generally to pay more attention than formerly to early sowing, and in this way crops have been improved. A much larger proportion of land is now prepared for crop by plowing in the autumn, than formerly, and the results obtained have been highly satisfactory.

Selection of Productive Sorts for Sowing.

Another important point in connection with successful farming is the selection of the best varieties for seed for sowing, taking into consideration productiveness, quality and earliness in ripening. Experience has shown that there are marked and fairly constant differences in the productiveness of varieties, when grown side by side under similar conditions.

Forty-one different sorts of oats have been under trial for six or seven years at all the Dominion Experimental Farms, and the best twelve varieties published from year to year. During the whole period only eighteen of the forty-one sorts have at any time appeared in the list of the best twelve. The average crop given by these twelve best sorts for the past six or seven years has been 72 bushels 24 pounds per acre; while the remaining twenty-nine varieties have averaged during the same time 66 bushels pounds—a difference in favor of the most productive sorts of 6 bushels 2 pounds per acre. This receives additional significance when we recall the fact that every bushel of oats per acre added to the average crop of the Dominion puts about one million dollars into the pockets of Canadian farmers.

In barley this constancy in productiveness is even more marked. Of thirty different sorts which have been under trial for the past six and seven years, ten of these have appeared in the best twelve every year for the whole period, and fourteen only have found their way during this time into the list of the best twelve sorts. While the twelve most productive sorts have given an average crop for the whole period of 45 bushels 30 pounds per acre, the remaining twenty-two sorts have averaged for the same period 41 bushels 45 pounds, or nearly four bushels less per acre.

In the returns from the trial plots of spring wheat, similar evidence is found. Of the thirty-one varieties of this cereal which have been tested for six or seven consecutive years, eight of these have appeared among the most productive every year for the whole period.

In spring wheat the difference in yield between the many sorts under uniform treatment at Ottawa has ranged from thirty-one bushels per acre to sixteen bushels. In oats, from eighty-nine to forty-two bushels; barley from fifty-eight to thirty-three bushels; and in pease from forty-six bushels to twenty bushels per acre. It will be self-evident that the importance of taking advantage of such variations in yield by encouraging the growth

the more prolific sorts, is very great, when we consider the larger area under cultivation.

Introducing the Better Varieties.

After careful and continued experiments on the Experimental Farms have shown that any variety is specially promising, this is cultivated on a larger scale, so as to admit of its free distribution among the farmers of the Dominion. This grain is grown on our farms and is distributed chiefly from the Central Farm at Ottawa, in small bags sent free through the mail. The samples are sent on personal application only, from 3 to 5 lbs. being forwarded to each farmer who applies. Only one variety is obtainable by an applicant each year, and with this restriction, the quantity sent out every year for the past five years has averaged over sixty tons, more than 30,000 applicants being supplied each season. Those farmers who take good care of the samples received usually have at the end of the second season sufficient seed for a considerable acreage, and henceforward have all they require for their own seed and some surplus to sell to their less careful neighbors. By this method the better varieties of grain are being rapidly spread all over the country, and the average yield of the more important crops is thus increased. In this way the farmer is directly benefited, and with the help of the reports and bulletins published by the Experimental Farms he is kept informed of the general work in progress and is brought into sympathy with it.

Many varieties of grain have been brought to Canada for test from nearly all the grain-growing countries of the world. New sorts of wheat, barley, oats, and pease have also been produced at the Experimental Farms by cross-fertilizing, with the object of combining the good qualities of different varieties, more especially with a view of obtaining increased vigor, greater productiveness and an early-maturing habit. During the past fourteen years more than seven hundred new sorts have thus been produced and tested, and among these there are quite a number of promising varieties. Experiments have also been conducted for a series of years to ascertain the quantity of seed grain most profitable to sow per acre, the depth in the soil at which it is most advantageous to place the seed in the different climates of the Dominion, and the relative advantages of sowing broadcast and with different sorts of drills.

All this work is as important for the progress of the dairy industry as for any other branch of agriculture, since the cheapening of the cost of producing grain lessens the cost of milk.

Much attention has also been given the improvement of pastures and the introduction of grasses useful for hay and fodder, which have been reported on from year to year. At the time the Experimental Farms were organized the dairy industry in Manitoba and the Northwest Territories was greatly hindered for want of suitable grasses for hay and pasture, which would be hardy enough to succeed in that climate. This was one of the first questions to claim attention, and experiments were promptly begun at the Brandon and Indian Head farms with some of the most promising of the native grasses and with others from foreign sources.

A number of different varieties were procured from Northern Russia, among which was the Awnless Brome grass (*Bromus inermis*). From the outset this grass did remarkably well, both at Brandon and Indian Head, giving promise of great usefulness. Within the following two or three years larger supplies of seed of this grass were obtained from Europe, and in the Annual Report of the Experimental Farms for 1890 it was referred to as one of the most valuable of the grasses we had tested. Further ex-

perience with this species has thoroughly demonstrated its great value to the farmers of the Canadian Northwest. At the branch Experimental Farms at Brandon and Indian Head large fields of this grass have been grown to demonstrate its value for hay, and large areas have also been devoted to the production of seed. Many thousands of sample bags of one pound each have been distributed to farmers throughout the Northwest for trial, with the result that it is now very generally grown and has proved a complete remedy for the difficulty which stood in the way of the advancement of the dairy industry in that country. The Awnless Brome grass is a very hardy sort, which will endure very low temperatures and also stands drouth. It begins to grow very early in the season, and is from four to six inches high before the native prairie grasses have started. It yields heavy crops of hay and a dense aftermath, on which cattle can be pastured up to November or December. Cattle are very fond of it, and prefer it to timothy. Horses also eat it readily and thrive well on it. The highest yield of hay we have had from this grass was in 1901, when one acre at Indian Head gave a crop of 4 tons 1,980 lbs. of cured hay. It commonly gives from two to three tons per acre. The climate of the Canadians Northwest is well suited for growing seed of *Bromus inermis* of high quality and the growing of the seed for sale by farmers is now extensively practised. The great success achieved in growing this grass in Canada has induced a large number of farmers in the Northwestern States to engage in its cultivation, and there has been a heavy demand for seed. This demand has been largely met by some of our enterprising farmers, who have found the growing of Brome grass seed very profitable.

Dairy Work.

In experimental dairy work, the Dominion Farms have occupied a prominent place. One of the early trials undertaken with milch cows was in the line of demonstrating that a much larger number of cattle could be kept on each 100 acre farm than was generally supposed. These experiments were continued for four years and it was shown that the food produced on forty acres of land was sufficient for the feeding of an average of 22 cows for the full period.

Investigations were conducted to determine the best methods for the treatment of milk to bring the largest profit. These were carried on with deep setting of milk at different temperatures—immediate and delayed setting—in deep setting for different periods—in deep setting as compared with shallow pan setting—and in the setting of milk in cans of different diameters. Tests were also made in the creaming of milk during every month in the year, and in the creaming of milk from cows at different stages of lactation; also as to the relative efficiency of three methods of creaming milk then under discussion, namely, the shallow pan, the shot-gun milk pails, and the centrifugal cream separator. Experiments of which these may be considered representative were carried on for some years, all looking to the production of butter of the highest quality and to the best management of milk to secure the most complete separation of the butter-fat. Many tests have been made in the feeding of cows to ascertain what kinds and combinations of food produced the best results. A vast amount of information was thus gained and published, which has been valuable to dairymen.

The usefulness of corn ensilage has been the subject of many experiments, and the economy of using this succulent food for dairy cows was early established. This acted as a stimulus to the dairy industry, especially to

the manufacture of butter in winter. This brought about the milking of cows for longer periods, resulting in larger profits to their owners and at the same time affording employment for farm labor during the winter months. Experiments in the growing and feeding of other fodder crops have also engaged the attention of the Farm staff. The usefulness of field roots in the feeding of dairy stock has been further demonstrated, and attention directed to the best times for feeding and to the varieties most economical for this purpose.

Special efforts have been made of late by the Agriculturist of the Central Farm to induce farmers to pay more attention to the character and usefulness of the individuals composing their milking herds, by a daily weighing of the milk given by each animal and occasionally testing its quality. Many farmers have been induced to carry this out, and have found it profitable, since it has enabled them to improve the average milk production of their herds by fattening the poor milkers for the butcher and replacing them by better milking animals. To anyone desiring to carry out such test, convenient printed forms are supplied for keeping the records, which considerably lessen the labor involved.

In connection with the profitable management of that useful adjunct to dairying, namely, the feeding and fattening of swine, many problems have been worked out. The great value of skim milk when used in connection with other foods has been abundantly demonstrated. It has been shown that it is advantageous to give a mixed grain ration rather than one variety. Nevertheless, where a farmer finds himself in possession of a large quantity of any sort of grain for which the market price is very low, he can convert it into pork and often use it thus to advantage. A few of the experiments conducted at the Central Experimental Farm may be cited as examples :

A pen of four pigs fed on ground oats,, with the use of 6 lbs. of skim milk per day were fed to the finish with the use of 3.26 lbs. of oats for each pound of gain live weight. In another pen, where the quantity of skim milk used was only 3 lbs. for each pig per day, the quantity of oats required for each pound of increase was 4.21 pounds.

Ground barley with 3 lbs. of skim milk per pig per day has required 3.61 lbs. of grain for each pound of increase; whereas, mixed meal, consisting of equal parts of oats, pease and barley, with the same proportion of milk has produced a pound live weight for 3.20 lbs. of grain consumed.

Such experiments have been varied in every direction with the view of conveying information useful to all sorts of conditions so that, by inquiring into the results, the farmer may have in advance some idea as to the probable quality and cost of the material he is likely to get from any given ration.

Within the past three years an elaborate series of experiments has been conducted to determine the causes of soft pork, which in some parts of Ontario has been responsible for considerable losses to those engaged in the pork industry. Many feeding experiments were conducted, and the Chemist of the Farms made a large number of analyses of the fat of the animals under test, from which conclusions have been drawn and recommendations made, which, it is believed, will enable farmers in future to produce a uniformly firm and high quality of pork.

The experience which has been gained by many groups of experiments covering a long term of years, in the feeding of cattle and in the testing of those breeds especially adapted to produce the highest quality of beef, has stimulated and aided the stock industry.

Some experiments have also been conducted with sheep, with the object of encouraging the production of mutton and wool.

The business in eggs and dressed poultry has been aided by the Poultry Manager, who has for many years conducted experiments to find out which breeds of fowls lay the largest number of eggs during the period of high prices, and what breeds are best adapted for forcing for early table use.

In the Chemical Division, investigations have been conducted by the Chemist bearing on all branches of agriculture. Fodder plants have been analyzed to ascertain their nutritive constituents and to find out at what period in their growth these plants may be cut to the greatest advantage. The relative quantities of nutritive matter in field roots have been investigated and analyses made revealing the composition and feeding value of the more concentrated foods on the market. The care of manures and their action have been the subject of much inquiry and the usefulness of mucks, muds and marls as fertilizing agents has been treated of and explained. Soils representing large areas in different parts of the Dominion have been analyzed and reported on, and many other important lines of chemical research pursued.

In the Division of Entomology and Botany, much information has been given by the chief officer in charge as to the nature of insect injuries to crops, the life-history of noxious species, and the best remedies to adopt for their destruction. Enormous losses have occurred in the past from these pests, and there is no doubt that the practical remedies which have been devised for destroying them have been of great benefit to the farming community by lessening the yearly losses. The injuries caused by fungous diseases, from which grain, fruit and other crops largely suffer, have been materially lessened by the more general adoption of the remedies recommended. The subject of noxious weeds has also been fully investigated and attention called to the best measures for their subjugation.

The instructive experiments which have been carried on in the Horticultural Division with many varieties of large and small fruits have served to show where these can be grown to the greatest advantage, and have been helpful in promoting fruit-growing over those large areas where the climate is so well adapted to the production of fruits of high quality. By cross-fertilization on hardy wild forms, new and improved sorts have been created, some of which will, it is believed, be hardy enough to succeed in all those portions of the country where the climate is less favorable for fruit-growing. The information which has been given on the cultivation of vegetables, and the varieties best suited to the different climates of the country, has also proved of much value.

Experiments in tree planting were begun on all the Experimental Farms as soon as practicable after their organization. At the Central Farm twenty acres were devoted to forest experiments to determine the relative growth of the more important timber trees under different conditions. Sixty acres of the same Farm are in use as an Aboretum and Botanic Garden, where trees and shrubs from many countries are under test to determine how far they are suitable for growing in Eastern Canada. Smaller areas are being devoted to the same purpose on the branch Experimental Farms. As the need for forest shelter is particularly great on the open plains in the Northwest country, special attention has been given to the encouragement of tree planting for shelter in Manitoba and the Northwest Territories. About sixty or seventy thousand trees have been planted on each of the Western Experimental Farms, in shelter belts, shelter blocks, avenues and hedges, furnishing examples as to the best methods of planting and affording information as to the cost of planting per acre. To aid others in starting this useful work on their own land there has been distributed free, through the mail, on application, during the past fifteen

years over a million and a half of young forest trees in lots of about 100 each, and more than eight tons of tree seeds have been sent to settlers in sample bags of one pound each, every package containing sufficient to produce, with reasonable care, from 500 to 800 young seedlings. The results of this work are now everywhere apparent. On homesteads in almost every part of the Northwest plains there are small plantations of forest trees which afford shelter for buildings and stock; also for the growing of garden vegetables, small fruits and flowers, and at the same time, make the dwellings of the settlers more attractive by converting bare and uninviting surroundings into pleasant and sheltered homes.

should become bureaus of information, to which farmers might apply from

When the Experimental Farms were planned, it was intended that they time to time for aid in the solution of the difficulties which frequently present themselves during the progress of farm work. Evidence of their usefulness in this way is furnished by the rapid increase in the correspondence carried on with farmers in all parts of the Dominion. In 1889, the year after the Farms had become fairly organized, the number of letters received was about 8,000. During the past five years there have been received at the several Experimental Farms an average of over 60,000 letters annually, to about 35,000 of which written replies have been sent, the remainder being of such nature as to admit of their being answered by printed circulars. In addition, over 200,000 Reports and Bulletins have been yearly sent out. There has thus been a constant flow of information going to Canadian farmers from all the Experimental Farms, which is producing excellent results.

It is, as a rule, a difficult matter to bring about rapid changes in the ideas and practices of farmers; but as soon as they are convinced that experimental work is carried on in a practical manner by persons competent to give information, and that it is undertaken in their interests and with special object of making farming more profitable, their sympathy and co-operation are assured.

Much information has also been given every year by the officers of the Central and Branch Farms who have attended many meetings of farmers, dairymen and fruit growers, held in different parts of the country, where they have had opportunities of giving fuller explanations concerning all branches of the work in progress at the several Experimental Farms.

Sixteen years have passed since the Experimental Farms were established, and during this interval agriculture in Canada has made unprecedented advancement, and there has been a vast increase in the exports of agricultural products. In the meantime, the condition and surroundings of the farmer in all parts of the country have been greatly improved, and the occupation of farming has been elevated in the eyes of the community. Farming is no longer looked down on as a sort of drudgery, suited only to the dull and slow-going. It is now regarded as a suitable field for the exercise of the higher intelligence of more cultivated minds, and is recognized as a calling requiring much skill to conduct successfully.

How much of this advancement is due to the instructive, experimental and practical work carried on by the Experimental Farms cannot be closely determined. A large portion is undoubtedly due to the many useful organizations established by the several provinces for the benefit of farmers, especially The Ontario College of Agriculture, Farmers' Institutes, Dairy Associations, Fruit Growers Associations and Live Stock and Poultry Associations, by the Province of Ontario. The Dominion Experimental Farms were, however, among the first in the field, and the broad foundations which were laid for their work and the persistent manner in which everything tending to the well-being of the farmer has been worked out and advocated, leave little doubt that a very large share of the general improvement

which has taken place in the cultivation of the land, in the quality and abundance of the products, and in the general conditions and surroundings of Canadian farms, is due to the example and persistent teaching of the Dominion Experimental Farms.

A. A. Wright, M.P.: If any dairyman applied for these cards or forms spoken of by you, would they get them free ?

Dr. Saunders : Yes; Mr. Grisdale will be pleased to send these blank forms to all who will apply.

Mr. Hickey : Is Brome grass an annual, or does it grow every year like timothy ?

Dr. Saunders : It is perennial. It has a very strong root system. No part of the root grows above ground, and it is not likely to be injured when pastured by cattle. It is sown without a nurse crop, and we find at Indian Head and Brandon that when sown in the spring cattle can feed on it by September or October. In the second year it gives a very strong crop. One acre at Indian Head gave five tons of hay. In the fourth year it lightens considerably, although the aftermath is heavy. We find that it is more profitable to sow it after the fifth year; so we plow it under and sow a fresh crop.

John Craig : Is there any trouble in getting rid of the roots of Brome grass ?

Dr. Saunders : This grass has a strong root, and if it is carelessly plowed under it will spring up and grown again quite strong. But where properly plowed under there is very little trouble experienced. The plowing under of the roots adds much vegetable matter or humus to the soil, very much in character like the original prairie sod. In parts of the Northwest where the newly sown grain suffers from the stong winds, the use of Brome grass helps to keep the young grain crop safe and secure. I have found personally that Brome grass is a help in this matter. The rotting of the roots of Brome grass will also give a large amount of humus in the process of decay.

A. A. Wright, M.P., Perth : After a little banter proceeded to say: I am glad to be here and see so many intelligent farmers getting such good instruction on so many questions that pertain to their work. There are very few of us who thoroughly realize the fact that the farmers of this country are the great backbone of all the industries and all the wealth of this land. We can hardly estimate the amount of wealth added annually to the credit of the country by agriculture. We throw every other industry into the shade in this respect. The Canadian Pacific Railway have recently increased their stock by $20,000,000 in order to enlarge their rolling stock and build branch railways in the Northwest, because our grain crops and other branches of Agriculture are developing so rapidly, and must be carried to the seaboard. This railway company has bought 300 acres of land in the city of Montreal, in order to build there one of the largest shops in the world, able to turn out 75 cars daily and 75 locomotives annually for our immense trade, much of which is to be credited to our agricultural advancement. The Deering people are expending $3,000,000 in the city of Hamilton in erecting and fitting up workshops, in order that they may make agricultural implements for the farmers of Canada alone. It was the farmers of Canada who had brought this country into the notice of the world. When we sent the "big cheese" to the Chicago Exposition the people from all over the world wondered where it came from. We also astonished them when they learned that the wheat that took the first prize at the great exhibition had been grown in Canada, 900 miles west of Chicago. We were never in a better position to go forward to greater triumphs. We have a good soil and climate, we have

first-class implements, and we understand first-class methods, and are coming more and more to a full knowledge of scientific agriculture. I was more than pleased at the remarks made by Miss Livingstone as to the instruction and help that was being afforded farmers' wives and daughters. They are deserving of the best that can be given them. Some years ago a gentleman in England placed the following inscription on the tombstone erected to the memory of his wife : "Here lies my wife Jane; a most amiable woman, and a splendid cook." (Laughter.) I am proud to say that I was instrumental in having a School of Domestic Science established in connection with the Collegiate Institute of the town of Renfrew. Not only do our young girls attending the Collegiate Institute take advantage of this excellen line of instruction, but young women are coming in from the town and country to get assistance from the classes taught there. We have also a manual training school in connection with the Collegiate Institute, and when the boys from the farm who are attending there go home they will be able to take hold of agricultural implements and set them up or repair them. (Applause.)

J. R. Dargavel : From what you know of Brome grass would you recommend if for growing in Ontario in preference to timothy or clover ?

Dr. Saunders : I stated in my address that cattle preferred Brome grass to timothy. I made that statement from observations taken on the Experimental Farm. We sowed Brome grass and timothy, and had a lot of cows feed on both crops, and we noticed that where the Brome grass was grown it was eaten down to the ground, but that the timothy was allowed to go to seed. We cut a number of loads of timothy hay when the cows were taken out, but there was no Brome grass hay, this showing which grass was preferred by the cattle. The crops of Brome grass have been a little heavier in weight than the timothy, and the analyses made by our chemist show that it is equal to timothy in nutriment. I think it is safe to say that it is equally as good a grass as timothy, but I would not like to say it is a better grass until we have more experience.

Hon. John Dryden was introduced and requested to address the Convention. After stating that he would speak at greater length later, he said: I have been in different parts of Canada on various occasions in recent years, and I find that our people are growing in the direction of a greater desire for information touching agricultural matters, and in everything that pertains to rural occupations. In agriculture there are several industries, one of which you are now met to discuss. Dairying is a great and increasing branch of agriculture, and in regard to this, and indeed to every branch, the people seem hungering and thirsting to learn all that can be taught them. As Dr. Saunders was reading his paper, I thought: "How valuable are the privileges of the people of this land !" However, while all this agricultural education is admirable, much depends upon how we utilize all these advantages. A man does not get fat and strong in proportion to the amount of food he eats, but on account of that portion of it which he is able to digest and assimilate. One may make a great deal of money, but if it is not saved he will not get rich. If all this information that is here offered is laid hold of by the people, and utilized, then there will be a great deal of good done. My advice is that when information such as we receive here reaches us, we should seek to put it into operation on our own farms and in our own districts.

The President : The effects of dairy education upon a community is remarkable. Some time ago we held a big dairy meeting at Lindsay. Within three years they had built twenty cheese factories where they had not one before. They are now making splendid cheese in the County of

Victoria, and have good cheese boards. I am satisfied that the people are going right home from this Convention to put all the valuable suggestions they will hear into practice. They are not going to keep a pig for a year that will jump through the same 7 x 9 pane of glass that it got through a year before. (Laughter and applause.)

B. Rothwell, ex-Warden of Carlton County: I have listened with much pleasure to the very able paper of Dr. Saunders. I have been experimenting with Brome grass in a small way for some years, and my conclusion is that it is a good grass to experiment with in a small way. In a rotation of crops, if you will allow me to use a colloquialism, it is "not in it" with good red clover or orchard grass. It is a good grass, however, and may yet come into a collection of grasses for permanent pasture. The best results I have had in corn were obtained from crops grown on clover sod plowed down about May 27, the grass then being ten inches high. The corn grown on this sod gave a crop 20 to 40 per cent. better than that raised on ground on which there had been no clover the year before, and clover sown among corn last year, at the time of the last cultivation, at the rate of 10 to 12 pounds per acre, gave a fine catch. Some of this I pastured last fall, and the rest I am saving for hay. My experience in dairying extends over a period of thirty years, and it goes to show that a cow should be dried off for at least two months before calving. There is a growing feeling among some dairymen that the silo will do away with root growing for the feeding of corn. I am as firm in favor of growing roots as ever. We have grown almost thirty tons of sugar mangels to the acre, and have put them into the root-house at a cost of about a dollar a ton. My experience is that if we took away our twenty or thirty pounds of these sugar mangels from our dairy cows we would not get so much milk from them.

Prof. Robertson : I was very pleased to listen to the admirable paper read by Dr. Saunders. A great many people that come to the Dairymen's Convention are concerned only with the making of dairy products—the making of cheese or the making of butter—and sometimes they forget the chance they have to earn a living arising from the things that Dr. Saunders has told you. We have a good deal of climate about Ottawa. (Laughter.) The meaning of that sort of climate is that we have a better chance in Canada to turn climate into butter than any other people in the world. That is the only thing that helps butter. It does not do to let a cow contend with the climate too much. That is for the man to do, because climate settles the occupation of the people everywhere, and because the climate governs the sort of crops that can be grown, in the richness of the soil, and man's first duty is to control the climate where he can, to get the best he can; and one of our acts is to control the climate where the cow is in winter and you will then see improvement both in the quality and the quantity of the milk produced. There is no means by which cheese can be kept good unless it is kept cool, and there is no place where butter can be kept except in a cool climate. Then more immediately important is the crops. In the matter of the rotation of crops, the result of putting clover before corn is caused by man's thinking before he begins his work. Seven bushels more to the acre of grain means all the difference between feeding cows on farms to loss or gain. Mr. Grisdale, under Dr. Saunders, at the Ottawa Central Experimental Farm, is trying to teach this. I cited this morning what is being done by Danish dairymen in 250 Associations for testing their own dairy cows by weighing the milk very often to get the best results by fair analyses. In one case ten or fifteen farmers associated together for this purpose, and after the first year's

test applying common sense to the result of scientific quest raised at the end of there years forty-seven pounds of butter more per head. Why, 17 pounds of butter is more than half the limit of home dairying in Ontario. What put those cows up to 238 pounds per cow per annum? The work of experimental farms as original work for application by men's labor. (Applause.) There is need, especially now, for cleanliness and regulation of temperature. There is need for a man to perceive his opportunity and to exert his ability to control a certain amount of controllable climate. If he does this he will be able to turn crops into cream by letting the cows do the coarse work, so that the man would keep for his own labor the reward that would make him comfortable, provide wealth for himself and education for his children.

MATERIAL FOR THE MANUFACTURE OF CHEESE BOXES.

A. A. Logan : I wish to draw the attention of the members of this Association to the fact of the rapid depletion of the elm forests of the eastern portion of Ontario. It has been from this material that we have got our cheese boxes. Our boxes have increased in cost fully 50 per cent. within a short time—say the last three or four years. We then paid 8 1-2 cents for a box, while to-day we have to pay 13 cents. This is an important matter, and it is necessary that our elm forests should be given some measrue of protection if the dairy industry is to be helped to do its best work. I hear that there are elm trees fit for making cheese boxes out of in New Ontario: and if so these should be guarded. I beg to move the adoption of the following resolution :

Moved by A. A. Logan, seconded by John McTavish, "That in the opinion of this Eastern Ontario Dairymen's Association the question of material for the manufacture of cheese box veneerings has become a very serious one. The elm timber of this part of Ontario has become practically exhausted, the effect of which has become so serious that within the last two years the price of cheese boxes has advanced fifty per cent. And as elm is the only material we have in Ontario fit for cheese box purposes, and the best material from which to manufacture barrels, kegs and fruit baskets, it is in the opinion of this Association a question that should receive the serious consideration of the Ontario Government; and the prayer of this Association is that the Hon. Minister of Crown Lands of Ontario take the necessary steps to set apart a large portion of the elm-timbered Crown lands of New Ontario for the purposes above enumerated, and that a copy of this resolution be sent to the Hon. John Dryden and the Hon. E. J. Davis."

C. W. Young, Cornwall : I have noticed in a number of American papers that pulp and paper cheese boxes have been made satisfactorily. Some years ago cheese were sent to the British markets, and a request came from the buyers to cease using paper boxes. The boxes were not ventilated, and the cheese spoiled. I am hopeful that a cheese box famine would be averted by the use of other material, spruce, for instance.

The President : The resolution will do no harm in any event. We found that the old style paper box was not good for cheese. There is a large per cent. of moisture in cheese, and the paper boxes absorbed a large amount of this and became useless. However, the new style of paper or pulp boxes gave promise of being better. It is indurated ware, just like the butter tubs, I understand.

The resolution was carired unanimously.

AN ADDRESS TO THE GOVERNOR-GENERAL.

The Assembly Hall was filled on Wednesday evening, when the proceedings were formally opened by the Governor-General.

The President first read the following address to Lord Minto :

His Excellency the Right Honorable the Earl of Minto, Governor-General of Canada, etc., etc.

May it please Your Excellency :

The Dairymen's Association of Eastern Ontario begs to offer you an assurance of deep appreciation of your kindness in coming to open this, its Twenty-sixth Annual Convention. The officers and members desire to thank you for the honor you have conferred, not only on the Dairymen's Association, but on the dairy farmers throughout the Province of Ontario, by associating yourself with them in this, their annual gathering.

Agriculture is the greatest industry and the most important material interest in the Dominion of Canada, and dairy farming is one of its chief branches. In addition to supplying the home markets, the Dairymen of Canada have exported during 1902 cheese and butter to the value of over $26,000,000. The remarkable progress in this Department of national industry has been due to the increase of intelligence, the enlargement of practical ability and the extension of co-operation among the farmers themselves, as well as with the carrying companies, and the business men identified with this branch of commerce. Prosperity and success in our vocations have led us to appreciate all the more the great advantages which we enjoy in the open markets of the mother country for our products. Apart from any business advantage which we derive from being part of the great British Empire, we take this opportunity of affirming our loyalty and devotion to the institutions of the Empire to the person of His Gracious Majesty, King Edward VII., and to you, His Majesty's representative in this part of the British dominions across the seas. We have watched with satisfaction the part you have taken in cementing the bonds of friendship between the different portions of the Empire, and in prompting harmony and good-will between Canadians and our neighbors of the illustrious republic of the United States.

We beg to convey to your beloved consort, the Countess of Minto, an expression of our gratitude for the most kindly interest she has taken in the social, educational, benevolent and charitable interests and institutions in the various parts of Canada. It is our ardent hope that Your Excellency and the Countess of Minto may find the new year, upon which we have entered, one of happiness for yourselves and one of continued prosperity to the Dominion of Canada.

D. DERBYSHIRE, President.

LORD MINTO'S REPLY TO THE ADDRESS.

As a representative of His Majesty King Edward VII., I deeply appreciate the welcome you have extended to me and your loyal expressions of devotion to the throne and to the great empire of which we are all so proud.

Speaking for myself personally, I can assure you I am very grateful to you for the opportunity you have afforded me of being present at this meeting of your Association, and I can honestly say, for Lady Minto and myself, that we value nothing more than the recognition so kindly

expressed in your address of any small endeavors we may have been able to make to further the interests of the people of Canada.

The time passes very quickly, gentlemen, and it is already two years since I met your Association for the first time at Smith's Falls, and to-night I am glad to wish you a happy new year and many of them, at the Capital of the Dominion. I hope that the present gathering may be thoroughly representative of the farmers of Eastern Ontario, and that the addresses and interchange of ideas during the session to be held here may go far to disseminate throughout the Dominion the results of much expert thought and experimental study.

The objects of your Association are instructional. You have sought with great success to draw the attention of the public to the immense value of the dairy trade which you represent, and above all you are endeavoring to draw the attention of farmers themselves to the necessity for that technical knowledge of their trade, without which in these times of competition it would be impossible to hope for success. The foundation by careful selection of the best milk producing herds, good and economic feeding, the handling of the milk itself, the manufacture of butter and cheese and final preparation and packing for the market, are points for consideration upon the results of which depend not only the increased income of the individual farmer, but also the prosperity of a great Canadian industry and the encouragement of that Imperial trade which is doing so much to foster the intercourse between Canada and the motherland.

The Association has every reason to be proud of its work. I am told, gentlemen, that the export trade in butter from the port of Montreal in 1894, before cold storage was provided, was only 32,065 packages—whilst in 1902, with the help of cold storage, 523,991 packages of butter left that port. Canadian cheese are reported to have improved immensely in quality, and, what is I know always welcome to farmers, the prices of butter and cheese have been comparatively high during last season: but nothing is, I think, more striking as indicating the increase of the dairy trade in Canada than some figures that have been given me, showing the census records of cheese and butter factories in the Dominion for 1890 and 1900. The records deal both with cheese factories only and butter factories only, and also with butter and cheese factories and give the number of each such factory for every province in the Dominion. It will, I think, only be necessary as an example to take the total number of factories in the two provinces of Ontario and Quebec. In Ontario in 1890 the number of factories was 893, and in 1900 had increased to 1,221. In Quebec in 1890 it was 617, and in 1900 had arisen to 1,648. The other provinces all show a great increase, the total number of factories as shown for all the provinces of the Dominion in 1890 being 1,565, and in 1900 3,099.

I am very glad to see here the Minister of Agriculture, who has done so much for the agriculture and trade of Canada, and who is far better able than I am to deal with the subject. The sound and practical lines upon which your Association has been working has been fuly recognized throughout the Dominion, and I think I may say by our friends over the border. I had hoped to have welcomed here to-night Major Alvord of the Department of Agriculture at Washington, but I understand he has been unavoidably delayed, and will not reach here before to-morrow.

I congratulate you heartily, gentlemen, on the success which attended the efforts of your Association, and I look forward with certainty to the benefits you have it in your power to bestow upon the agricultural interests of the Dominion.

Mayor Cook then extended a hearty welcome to the Convention. He assured Lord Minto that there had been a keen struggle among rival cities for the honor of getting the Convention, but that Ottawa had offered the best inducements. He welcomed the delegates to the capital city, where the laws for the whole land were made, and where the big appropriations were made, and while the laws were for all, he also hoped that every delegate present would see to it that his locality got a fair share of the appropriations also. (Laughter.) When the farmers of Canada agreed on any policy they would be able to make their influence felt. Some years ago the Department of Agriculture was largely a registry for patents on car-couplers and electric lights, with bubonic plague in the Maritime Provinces and lumpy jaw elsewhere. But the farmers of the House on both sides had long since decided that the Department of Agriculture should be conducted for the farmers chiefly. The result was our splendid experimental farm system. Then they decided to do something further for dairying, and Prof. Robertson as Dairy Commissioner appeared on the scene—one of the best appointments ever made in any branch of the public service. Under the present Minister at Ottawa a good deal had been done in the way of developing our cold storage system. Of course the Provinces also had their Departments of Agriculture, and these, too, were doing excellent work. He concluded by extending the freedom of the city to the delegates.

The President: On behalf of the dairymen of Eastern Ontario I accept the kind and warmly-worded welcome given by the Mayor of this capital city. Everything has been done by the representative people of Ottawa to assist us in making the Convention a success.

ADDRESS.

By Hon. John Dryden, Minister of Agriculture, Toronto.

I consider myself honored in being permitted to take part in the opening exercises of this Convention, and I think your Association has been greatly honored in having the presence of His Majesty's representative in this Dominion. You not only have his presence here to formally open your convention, but I am sure the words of wisdom he has given you have been very much appreciated, and the warm encouragement coming from one in such a high position has touched all our hearts.

I am not here on this occasion, as you know, to instruct any of you in the art of dairying, but I am here as the head of my Department to give you such encouragement as I may in the work you have in hand, and to assure you of the hearty sympathy of the Department of Agriculture for Ontario and of the Government of which I am a humble member.

The development of our country or of any particular industry must always depend primarily upon the energy, skill and perseverance of our people. We all know that occasionally obstacles present themselves which cannot be removed by any individual. These difficulties may not be the fault of the individual, but of others associated with him in the undertaking; he is limited to his own particular surroundings and can have no control in such a case, but he finds himself linked with his neighbor and when his neighbor suffers it affects his own results and the returns he ought to receive. In such a case, the power of the State ought to bring relief. It is a principle which has been acknowledged everywhere. It is because of the necessity for his help that our Legislature has for years past rendered their assistance and given annual grants to this Association in order that relief may be obtained when necessary. If we are to perfect

the quality of our dairy products we shall always need three things : first, enthusiasm; second, cohesion, and third, education. I like enthusiasm in an election; success can hardly be achieved in a close contest without it. Why is enthusiasm so valuable ? Because when it runs high you can depend on each and every man doing his very best. If this is true in politics, it is equally true in connection with the dairy industry. Enthusiasm compels the best effort of each individual. The aids to enthusiasm are numerous. I place first on the list conventions such as this. The old proverb says "As iron sharpeneth iron so doth the face of a man that of his friend." We have all realized the truth of this statement. No one can tell how much of enthusiasm has been given to Eastern Ontario by the work of the Dairymen's Association.

We shall never know how many drooping hearts have been cheered as they have come to listen to the members and to receive information, or how many dull minds have been aroused by the spirited statements. Discouragements have been entirely removed because the better way has been presented.

If the President of your Association was not here I should feel like saying more, but in his presence I will say that to no other single individual can we give as much credit for aiding this enthusiasm as to him. We know his power at a gathering like this. He seems to be a veritable whirlwind when his is started. He always speaks with effect; he commands our attention; he directs us to speak, and we speak, and when he requires us to sit down, we must stop. He makes us all feel that this is the greatest calling on the earth, and that we are all of us parts of it and must do our part well.

Another aid towards enthusiasm is in higher prices. Undoubtedly in a season like 1902 when higher prices prevail and when favorable climatic influences have been at work, thus encouraging this industry, we enter upon the following year with a greater amount of enthusiasm. So also the achievement of success is another element leading to greater enthusiasm and it is all needed in order to produce the very best results.

The second effort required is cohesion. By that I mean the clinging together as one man; stepping together as the ranks in a well controlled army. It means the strong man helping the weak; it means the wise must afford instruction for those who are ignorant; it means that each shall take hold of the same work having a common purpose and that all shall mind the same things. We cannot have perfect cheesemaking without the encouragement of this principle. Individual effort here and there will accomplish little. We shall find ourselves so tied together that we must stand together, advance together, or fall together.

The third element I suggested was that of education. This I assume all will agree to be the proper function of the State. It is acknowledged as the foundation principle in our educational system. This education commences with this convention. We have all appreciated over and over again the vast amount of information which has been given by persons who have presented themselves at a time like this. This information will be further scattered by the reports of the meeting published in the newspapers and in the official report of the Association. It will be further strengthened by the various bulletins which may be published by the Dominion Government or by the Government of our Province. It will receive a great impetus from the Dairy Schools. Three of them have been established, and they annually give special instruction to the various persons who present themselves and who afterwards go into the different districts and scatter the information still further. But after all how few of the aggregate number are ever reached in any of these ways, and our difficulty is that those who are most needy

and most require this information never attend a convention, probably do not read the report, are never affected by the Dairy School, and thus go on from year to year in the old way. We say they are most needy, but they do not know it. But we cannot afford to leave them out; they are directly in our way and hinder the perfection of our products. The question, therefore, is how shall we best reach them ? I think I know what the President would say. He would say we must carry to them the gospel of better dairying. What he means by that is the good news of greater returns for the labor and capital invested. That is a good gospel to preach. Bue we shall be obliged to recognize that these men to whom we go with this gospel are ordinary human beings. Sometimes they will be just a little stubborn and refuse to listen perhaps; or they may be tainted with selfishness, and when they discover you are asking them to do something which will help another they do not take to it kindly; or they may be of a class who know it all now and do not need any information. But no matter to what class they belong, they are in our way, and we must try to reach them. They do not want us, but we want them; they do not know their loss, but we know how much they would gain by improved methods.

If I may say so, I think our education in dairying has failed somewhat in the past because when such persons have said, "We do not want you," we have replied, "Therefore, we will refuse to notice you." It was because of this need, which could scarcely be covered by the old system, that my Department determined to make an effort to reach them. As you know, two sections were set apart, one in the east and one in the west, in each of which we placed an instructor whose whole time was devoted to the tweny-five or thirty factories in his district. Our object was to reach if necessary every man connected with the article manufactured; first the cheesemaker—his methods, his buildings, sanitation, cleanliness, etc.; second the patron, in case it were found necessary to give any instruction which would lead to a more perfect raw material being furnished. Naturally some of these men resented interference, but it is astonishing how much can be done by administering the milk of human kindness, and thus increasing that appetite for a greater amount of information. My experience leads me to say that the men are not numerous who cannot be reached in this way, and that when they realize that you are anxious to render assistance—that you are not working out problems merely for your own advancement—ordinarily they will respond. But if a man refuses after a fair trial to respond to kind treatment and receive information when it is needed, the only thing we can do is to leave him to his ruin.

The result of the experiment in both cases was eminently satisfactory; not only did the patrons and the cheesemakers express satisfaction, but the dealers seemed even more strongly in favor of this advanced effort. In Mr. Publow's district the success was so marked that a commission merchant after having experienced with the product of this district cabled from England to his agent here authorizing him to buy the whole output of that district, and to offer if necessary a quarter of a cent more per pound to secure it. I ask you what this means ? It does not seem a great advance, but it would mean for the county of Leeds, taking the cheese manufactured last year, an additional revenue of $25,000. But I submit that it is not necessary to stop our calculation at a quarter of a cent; my thought is that we should be able to so improve the product that we should increase the value one cent per pound or more. If that were so then the output of the county of Leeds would increase in value by $100,000.

What then are our plans for the future ? After a conference with the Boards of Directors of the Eastern and Western Associations in my office

last week, and after receiving the opinions of all present, we decided that the time was ripe for an advanced step being made. We shall therefore recommend that two Chief Inspectors be appointed, one for the East and one for the West, and under these there will be various sub-inspectors according as the necessities may demand. We expect that the people interested will pay their proportion of the cost, and that we may be able during the coming season to cover all the territory included in our dairying districts, so that before the end of next season we hope to have as the result of our work and not a little fancy cheese here and there, but that the bulk of the product will be included under the term "fancy." In undertaking this work, we want very man's influence, and we hope to receive influence not only of every one interested in the manufacture of cheese, but those outside of the industry. According to the President's address, we have reached the $30,000,000 mark, but we think we shall be able with proper organization to go far beyond it. We shall place high up on our standard the name "Canadian," so that the sight of that word may inspire every man of us to highest effort. Canada is the fairest of all lands, it is our home and it will be the home of our children. We will not suffer this name, therefore, to be marred or injured by the presentation of impure or imperfect products in the markets of the world. I believe, Mr. Mayor, that we shall yet see the day when the name "Canadian" stamped on our goods will always stand for purity, uniformity, and highest quality; so that whether it is seen on a box of apples, a box of cheese, a package of butter, or a consignment of bacon, when inspected by a foreigner who cannot read our language it will mean "Sound in every part," "Safe to buy." (Applause.) Of course we shall be Canadian in our politics and Canadian in our education, but I want specially that we should be Canadian in our agricultural products, for in this way and this way only can we achieve great things at home and great things among the nations of the earth.

ADDRESS.

By Hon. Sydney Fisher, Minister of Agriculture, Ottawa.

I believe that this is the first time a dairy association has met in the capital of the Dominion. I desire to add my welcome to the words so heartily spoken by the Mayor and other representative men of Ottawa. It is of the utmost importance to Ottawa that such a gathering as this should take place within its bounds, not simply because of this gathering there are a large number of people coming to the city, but because of the good influence it must have upon the whole valley of the Ottawa river. I know that other cities have experienced the advantage and profit—not only in their pockets, but also in their minds and sympathies—of having such meetings as this held in their midst, and I am satisfied that in respect the citizens of Ottawa and the surrounding country will reap a large advantage.

I have a few words to say to the dairymen connected with this Association, but first let me congratulate Hon. Mr. Dryden, the Minister of Agriculture for Ontario, upon the announcement he has made this evening regarding the advance in the work to be taken up by his Department. It is a great gratification to me to hear this announcement—that the system of local dairy associations is to be extended in Eastern and Western Ontario. The Province of Quebec has been obliged to come to the sister Province of Ontario for a good deal of assistance and help in our work as dairymen. We have looked to

you for information and leadership in many things pertaining to agriculture and dairying. But I am glad to say that you have had to come to our Province of Quebec for a model, for we have been conducting such a plan of local association work for the past thirteen years. Over a dozen years ago we of that Province formed a system of dairy syndicates, which is practically the plan about to be adopted by the Hon. Mr. Dryden in Ontario. This system has been successful in Quebec. Of course, I know that we have not yet reached that point in Quebec where our cheese ranks as high as yours, but our butter is perhaps as good. But when that arrangement known as the syndicate system of factories was first inaugurated we were very far behind you. We were struggling for the light of that gospel of good dairying of which Mr. Derbyshire speaks so often. We adopted a plan by which any group of factories not less than fifteen and not more than thirty would form themselves into a syndicate, with one inspector and instructor, and the Government of the Province agreed to help these syndicates to the extent of half the salary of the instructor, providing the bonus to any one factory did not exceed $250. In the first year there were tweny syndicates, and these have increased to thirty-five. We have now 600 factories under this system in Quebec, and the inspectors devote themselves entirely to the factories that employ them. No man is allowed to be an inspector, or take employment in a syndicate unless he has secured a certificate from the Dairy School at St. Hyacinthe. And furthermore, this instructor must keep up with the march of events, for he has to go back at least once in three years and secure another lease of his certificate; otherwise he would not be allowed to go to work. (Applause.) The Province of Quebec has made great strides in agriculture in the last seven years, and I may say that this system of dairy syndicates has been one of the most important factors in advancing the dairy interests of our Province. I therefore congratulate Mr. Dryden for extending this system into Ontario. I think you of this Province will be able to improve upon what we have done in Quebec. I am myself a dairyman. It is the branch of farming that I have always indulged in—partly because it was the branch of agriculture best adapted for the Eastern Townships in which I reside, and partly because I have always thought it was the branch of farming in which there was the greatest room for work and general experimenting. In dairying we reduce the product to the smallest bulk, and in this way we are able to realize upon our skill and intelligence, for we have sold in the most compact form a finished article, and have taken very little from the soil. The result is that we can keep up the fertility of our farms better under dairying than in any other line of agriculture. I have no hesitation, therefore, in saying that dairying in the character of its work, and the form and quality of its product, is the very highest point of agriculture in our country. We as dairymen should take more pride in our work, and it is only through this pride in our calling that we can have that cohesion that Mr. Dryden has so ably referred to.

Canada to-day stands high in the dairy markets of the old country. Our flour and wheat are also well-known there, and are largely sought after. Our bacon, eggs, and fruit are all asked for in large quantities, and our reputation as a whole is very good over there. But in all the list of our food products sent to that great mart—I was going to say sink—there is only one article in which Canada stands at the head of the list, and that is cheese, of which we send 60 per cent. of the total imports of Great Britain. (Applause.) In this article it is almost, in sporting parlance, "Canada first and the rest nowhere." (Applause.) It is a fair subject for congratulation,

and you dairymen of Ontario may well be proud of your record, and the fact that in this regard Canada is pre-eminent.

You are also to be congratulated on the magnificent work of the year just past. In your address this morning, Mr. President, you mentioned the sum of the dairy exports of Canada—our cheese, butter, and bacon totalling $45,000,000. These exports have been larger in bulk than ever before—large because the increase in the number of our cows, and also because of the increase in their product. There has also been an increase in price because of the increased knowledge and intelligence on the part of our Canadian dairymen. During the past years we have had unexampled progress, and have made much improvement in our industry in various ways. That progress and improvement will go on for a year or two, and perhaps for several years to come. But we may not always have easy work in keeping up the rate of progress, and in the future we may meet with a slight check. Other people will wake up to the fact that we have been enjoying great advantages, and will seek to rival us. Other producers are appreciating the value of the markets of the old land, and competition is becoming keener and keener, and closer and closer, and the only advantage we can hope to have ultimately must be the superior quality of our goods. Let us then secure that third element that Mr. Dryden so graphically described, that is the education of our people. There are in Canada to-day a number of places for the education of those who would make the farm products of the country. We have many bright men who are utilizing these means of improvement. We have also some who are laggards, dullards, and a few mulish people—men who will not read, or go to Associations, or Farmers' Institutes, or Dairy Schools, or Agricultural Colleges; they never seem to look around to see what the Governments of the country are doing for the farmers. (Applause.) These poor fellows are losing their chances and missing their opportunity. If the loss was theirs alone, we might feel like leaving it with them as a reward for their ignorance and sluggishness; but their ignorance and sluggishness injures others—it injures us—and so we must do what we can to bring them to a better state of mind and conduct. Let us who come to these meetings go to our neighbors and friends and tell them of the great advantages that result from taking part in such gatherings as these, and soon we will see larger crowds coming than ever before. This spread of education is going on. I know that every year more men in Canada are taking interest in agricultural matters. Therefore I have great confidence that Canada's progress in the future will be even greater than in the past. Our future is assured. I believe that those who have brought this Association here will be able to say at the close of the gathering that they were glad the organization met in Ottawa.

INTERNATIONAL AMENITIES.

The following telegram from the Wisconsin Cheesemakers' Convention, then in session, was read :

"Wisconsin Cheesemakers, in convention assembled, extend to our cousins across the border our greetings. Wishing you a successful and prosperous meeting. W. C. Dickson, President."

The reading of the telegram was heartily applauded, and the following reply was ordered to be wired :

"Your kind greetings, and wishes for a successful and prosperous convention, are heartily reciprocated. D. Derbyshire, President."

A BRIEF ADDRESS BY PROF. ROBERTSON.

Professor Robertson : We had occasion to be grateful for many blessings during 1902—a bountiful harvest, absence of pestilence, and the enjoyment of peace. We have been told for many years that we have a very large country. It goes one-sixth of the way round the globe—and that is not much to boast about because if a man has to traverse it three times a year he gets very tired of the long distances; but it is fast becoming a great country by the advancement of the two greatest interests in Canada—those of agriculture and education. You are becoming a great people living in a great country. A great people, because we are a people who like gatherings like this, living and enjoying the liberty and the right to say what we like, when we like, but hurting none else, promoting and diffusing intelligence among the common people of the land—if need be, ransacking the continent, even to the Washington of the South, to find a man wise enough to help the dairymen of Ontario to develop Ontario. This Convention is one way to advance these things—liberty, equality, and justice, and beneath these stand agriculture and all it implies. To live up to this is our patriotism—loyalty to our institutions, to our Sovereign, and to his representative in this land, His Excellency the Governor-General (cheers.) The land where this prevails is our Empire; and it is prevailing all the more effectively as the farmers and those that live on the land understand their work and carry it out. Farming is the main occupation from all time, from which all others arise—tilling the land for the food of the people. First of all, the development of dairying by educated men is a sure way to add to the country's prosperity. There are accidental chances that come to a nation, like the Klondike, which was a most unfortunate discovery for it has sacrificed more people than all the gold that ever came from it. Education was a sure way, no accidental way, to advance a country's wealth. Intelligent labor is the fruit of intellectual culture. The Lord never endowed a man with intelligence as far as I know —perhaps my acquaintance with the subject is rather limited. Power is got from his Maker; but intellectual power from education. What is the meaning of education ? What are the sources that arise behind it ? First climate—a superb climate in this country. Education lifted four failures to forty-five successes in Prince Edward Island—sixty-seven times an increase in ten years is the direct result of education—intelligent labor teaching the people to organize to help themselves. (Applause.) Education is ability to do things in one's own life and in one's own sphere—ability to understand necessarily is intelligence followed by ability to do, which clarifies the intelligence. As to the amount of water in our butter, Canadian butter has one-seventh less water than that from Denmark. We want to keep our butter as near the line as the Englishman will pay 23 cents per pound for—and I say that because a dry butter is the poorest butter you have to eat.

CHEESEMAKERS' SESSION.

Thursday morning was known as "Cheesemakers' Session." A large number of makers, some of them from a considerable distance were present, and manifested the greatest interest in the proceedings.

The President : I am very glad to see so many cheesemakers here so early in the day. The cheesemakers of this country have made the name of Canada noted, because of the good work they have done in the past. But with our well-equipped Dairy Schools we can, and we must, do even better

work in 1903. There must be more co-operation between the proprietors and the men who furnish the milk. It is a singular thing, that the only men in the dairy line who had not a good thing of it this year were the men who made the cheese. Now the makers, who have helped so much to improve the character of our cheese, ought to have had some of this increased gain. (Applause.) They ought to be paid more for their work. Although they have to pay more for their cheese-boxes, and for some other supplies, they do not have any allowance made them for that. It is not right, and I believe that the makers ought to be paid more money for making the cheese. (Applause.)

CHEDDAR CHEESEMAKING.

A paper on this subject was read by G. G. Publow, Chief Instructor, a record of which appears in the report of the proceedings of the Western Association.

BACTERIOLOGY IN RELATION TO DAIRYING.

By Dr. W. T. Connell, Bacteriologist, Dairy School, Kingston.

It has been my privilege to come before the meetings of this Association for the past six years, and I do so again this year with a great deal of pleasure, as it affords me another opportunity to speak on the old topic of Bacteriology in some of its various relationships to the great business of dairying. It is true that a great deal of what I am going to say has been said before and in various forms, but I trust it will be of benefit to those who are not up in the subject. The particular subject which will claim my attention this morning is "The effects of cleanliness and control of temperature on bacterial contents of milk and upon its quality as affecting the manufacture of butter and cheese."

Milk, no matter how cleanly a person may be in milking, will, in practically every case, be found to contain more or fewer bacteria immediately after milking. But the cleanliness of milking has a very great influence on the number of bacteria found in the milk, and has also a very important influence on the nature or character of these organisms.

It will now be necessary for me to amplify and illustrate these two statements in greater detail. Let me direct your attention to Table 1, which gives in tabular form the results of examination of milk which was milked with varying grades of cleanliness.

A. Thus the average of samples A is 4,300 bacteria per c. c. (16 drops). These samples were taken from herds where all reasonable precautions were taken to insure cleanliness. Thus the cows were brushed, the udders wiped off just before milking, any mud, etc., being washed off, the milkers' hands were washed and dried before milking, the cows were milked in a barn free of dust, pails thoroughly clean and scalded.

B. The average of samples B is 15,500 per c. c. These were taken from cows milked in a fairly clean but dusty barn, the udder was brushed free of coarse dust. The milker's hands were not washed, but were wiped after each milking. Pails clean but not scalded.

C. The average of samples C is 30,000. These were taken from cows milked in ordinary way, i.e., cows not brushed, udders cleaned by running unwashed hands over them before beginning to milk. Pails clean but not scalded. I am indebted to Dr. Park of the New York Board of Health for these figures, which were published in Journal of Hygiene, Volume 1, page

391. My own figures from some examinations made under like circumstances closely approximate to these, but as Dr. Park's are based on a larger number of samples I have used his figures for the tables.

Table 1.—Number bacteria in 1 c. c. at time of milking:

A.	B.	C.
4,300	15,500	30,000

These figures show better than talking can do the difference which cleanliness makes in the average bacterial content of milk at time of milking. It is evident that the lack of cleanliness in milking means the seeding of milk with a great number of bacteria derived from outside sources, and these sources must be the dust and hairs, including the manure particles from the cow, together with the dust of the milking place and bacteria derived from straining cloths and milk utensils. The bacteria which are present in practically all milk, even when most carefully milked, are derived from the milk ducts of the cow, and are found in greatest number in the fore-milk. Generally in the ordinary healthy animal the vast bulk of these are the common lactic acid or souring organisms, a class of bacteria desirable in both butter and cheesemaking. But we cannot say the same for these bacteria which get in from the stable dust and the dirt from the cow's udder. Many of these are bacteria capable of setting up most undesirable changes in the milk if the temperature conditions be favorable and their growth be not checked by the lactic acid forms present. The organisms which do get in under these conditions are such species as produce gassy, bad-smelling milks, or which show up later by producing pinhole, gassy or foul-smelling curds and many like undesirable conditions. I think we can take it as a rule that the cleanlier the milking and milk utensils, the fewer the bacteria and more likely they are to belong to the lactic acid varieties, and on the other hand the dirtier the milking the more bacteria will be found and the lactic acid species will be mixed in more or fewer numbers with gas-forming and like undesirable forms.

It is now a well recognized fact that when milk is kept at a low temperature, being cooled down shortly after milking, that it keeps a long time. It is not so well recognized a fact that the cleanlier the milk is the longer it will keep good at this temperature. Dairymen who supply milk to cities recognize this fact. Perhaps I should modify my statement and say that some at least do. For town or city delivery the producer usually cools his milk as soon as possible after milking, and keeps it at a low temperature until he can deliver it. Now I claim, and rightly as I think, that the cheese and butter makers have as good a right as the milk consumer to have a good pure article of milk. Next to cleanliness of milking, of milk vessels and surroundings, as bearing on the number of bacteria, stands the temperature at which the milk has been kept before delivery. Let me direct your attention to Table 2, where you will find some figures given illustrating the effects of various temperatures on milk. The period chosen for the examinations is 24 hours, as under laboratory conditions this is the most suitable. However, the figures would be fairly proportional, say for milk 15 to 18 hours old.

Table 2.—Effects of temperature on bacterial contest A and C (Table 1) samples milk after 24 hours, 1 c. c. milk.

	50 degs. F.	55 degs. F.	60 degs. F.	68 degs. F.	86 degs. F.	94 degs. F.
A...	4,500	18,800	180,000	450,000	1,400,000,000 turning.	25,000,000,000 sour and curdled.
C...	48,000	187,000	900,000	4,000,000	14,400,000,000 sour.	25,000,000,000 sour and curdled.

It will be seen from this table that when milk is rapidly cooled and kept below 50 degrees Fahrenheit that there is very little change in first 24 hours, while as the temperature goes higher the increase becomes very noticeable until it reaches the maximum limit. These figures will show very clearly the great influence which temperature has upon bacterial development, and shows better than many lectures the influence of temperature in preserving milk and the benefit derived from the cooling of milk. It also shows very clearly that the milk which was the cleanlier to begin with shows less bacterial development through the entire range of temperature until we reach the highest, where the development in both is so rapid that it reaches its maximum within 24 hours and the milk becomes very sour and curdled.

Again, with regard to the kinds of bacteria found. The gas-forming species will grow quite as well if not better than the common souring germs at the higher temperature. However, no figures can be given which will definitely show the proportional increase in the number of the acid-forming, and the gas and other species in milk as the results of analysis differ markedly in almost every instance. Of one thing I am assured, however, and that is, that other things being equal the common pure lactic acid producing bacteria develop better and more rapidly at the lower temperatures than do the common gas-forming varieties, so that milk properly cooled in summer is very seldom gassy milk. On the other hand, it is during the hot weather of midsummer when the farmers do not cool their milk, that there is much trouble from gassy and foul milks and pin-hole and gassy curds. I think that there are just as many gas-forming species in the milk during the cooler weather as in the hot season, but the acid formers are the species which thrive best at the existing temperatures during these periods, and thus the growth of the gas formers is checked, while the warmer the atmosphere is the more the chances of both species developing, are equalized. I have taken the gas formers as the type of the undesirable species whose presence and development are particularly aided by lack of cleanliness and high temperature, but I would call your attention to the fact that the hot months of the year are the periods during which nearly all the trouble is found. Of course, I am not now referring to winter dairying, which has troubles peculiar to inself.

In winter dairying where the cows are not kept very clean, the infection of the milk with undesirable bacteria is sometimes enormous. The low temperature at which the milk is kept stops bacterial growth of all kinds, and then when such milk is brought to creamery or factory it is heated up to hot summer conditions with the result that we give the undesirable species an excellent chance to develop and as they are usually more numerous than the common acid species such milk is often very foul and produces a bad article of butter or cheese. I would commend these facts to the consideration of those making winter or "fodder" cheese. The butter maker can overcome this by pasteurization and the use of a starter, but the cheesemaker has to fight the "dirt" in his milk as so far no successful system of making cheese from pasteurized milk has been devised. Of course the cheesemaker has to depend upon the controlling influence of a good starter by which he adds vast numbers of the acid-producing species to the milk.

The points I want to impress to-day are simply those of greater cleanliness in milking (and all that appertains to this, i.e., cleanliness of utensils, stables and dairy shed) and greater attention to the cooling of milk. Some may say that if milk is thoroughly cooled, say to 55 degrees Fahrenheit or thereabouts, that acidity develops very slowly, and that there would be in-

sufficient development of the acid-forming bacteria for cheesemaking purposes. If this is the only difficulty to be overcome its solution is very easy. Add a pure lactic starter and you can secure this factor, but do not use the starter simply to hasten the end of the day's work. I know the difficulties attending a wide adoption of such a method, one of the most important being the maintaining of such a pure starter at all times. I believe it has now come to the time when our instructors should preach not only the doctrine of cleanliness, but also the doctrine of cooling the milk more thoroughly. The Department of Agriculture (Dominion) have been experimenting in keeping cheese under temperature conditions approximating those found in England. These experiments, from the reports received this past season have been very successful, resulting in an added value for the cheese so cured. Let us go a step further back in the process and begin more nearly at the beginning, i.e., approximate to English temperature conditions by cooling the milk more carefully. In other words apply English temperature conditions throughout from the time of milking till the cheese is put on the market. If you like you can substitute for English temperature conditions our own temperature conditions as found early in June or the last half of September, both seasons of the year in which ordinarily the best cheese are made. I do not think it advisable to insist on too low a temperature for the cooling of the milk, but certainly for cheesemaking 60 to 65 degrees Fahrenheit is as high as advisable. For butter making 55 degrees Fahrenheit I would set as a limit.

Another matter which demands emphasis again placed upon it is the danger which follows the taking back of whey in the milk cans, particularly from whey tanks that are not kept properly cleaned. Prof. Harrison has shown, and I can most emphatically back him up in his statements, that the usual cleaning which cans get does not suffice to free them from the bacteria found in the whey (usual cleaning by hot water and brush and then rinsing with hot and cold water). It requires steam or boiling water to thoroughly destroy the bacteria from a perfect can, and the older and more battered a can the longer the exposure to these agents is necessary. Therefore it is better to avoid the danger of infecting the milk from the whey tank by not placing the whey in the milk cans.

To sum up. I think I have shown, first, that the cleanlier the milking the smaller the infection of the milk with bacteria, particularly undesirable forms. Second, that the lower the temperature at which the milk is kept the less the bacterial development. Further moderate temperatures, say up to 65 degrees Fahrenheit, aid mainly the normal acid-forming varieties, while temperatures above this are as suitable for the development of such species as the gas-forming varieties if these happen to get into the milk in any numbers. These two factors of cleanliness and cooling of milk are the factors of importance to dairymen to-day, for if they are not lived up to we can never get our cheese to come up to that produced in England even though English conditions are provided after cheese is made. The maker can only produce the best article from the best raw material, so that in this, as in everything else, one must begin at the beginning, and that is with the milk producer.

A Voice: Is there any market for these bacteria that infect the cheese?

Dr. Connell: Yes; they are commonly sold for twelve cents a pound. (Laughter and applause.)

The President: Mr. Publow and Dr. Connell are the kind of men we have assisting in the work of our Dairy School at Kingston, and they are here to give you the benefit of their large experience. If there is one thing needed in dairying more than another it is cleanliness. The hands of the

milker cannot be too clean, and all the surroundings of the barn should be of the very best. I was thinking this morning as Dr. Connell was speaking of my old friend, Harris Lewis, of New York State. He had visited us at Brockville and stated that he had made $65 a cow out of the milk and butter sold, and as he had twenty-four cows, that amount of money then seemed to us to be something enormous. He also said that under this plan of dairying his farm was growing richer year by year. I felt as if I would like to look into the matter for my own satisfaction, and it happened soon after that I had a chance to be near Mr. Lewis' farm, and I dropped off there. I noticed that there was a clock in the stable—the first time I ever heard of such a thing. Everyone in the stable was clean-looking, with washed hands. Every cow was rubbed down and clean, and just as the clock struck six the milking began. Everything was clean and beautiful and regular, and prompt in that stable. "There was no sound of a hammer." There was no noise; everything was quiet and orderly. No stools were flung at the cows' heads. (Laughter.) The person who milked "Bessie" in the morning milked her in the evening; for you know a cow is just as jealous as a girl in love. (Laughter.) Dr. Connell has taken months to prepare that address for us, and the lesson he gives ought to be taken home—that "cleanliness is next to godliness." Let us start at the beginning, and have clean hands and a pure heart in this business. What is the use of putting cheese into a cool curing-room when the milk has been sent to the factory at a temperature of 110 degrees ?

L. L. Gallagher : What is the cheapest way of aerating or cooling milk ?

Dr. Connell: I think the best and cheapest plan is to get what is known as a Star cooler. It is an arrangement by which the milk goes down on the outside, the interior containing cold water. Be sure there is no leak, or you may get some water in your milk. (Laughter.) By the time you are done milking your milk will be cooled. This operation should always be done in a place free from dust. That is the best method I know of of cooling milk and at the same time aerating it.

Mr. Carson : Providing the germs in milk are disease-producing germs, have you ever determined what the maximum number would be when the milk would be safe ?

Dr. Connell : If there is only one such germ in the milk, that milk should not be used for human consumption. (Applause.)

Mr. Charbonneau : Is milk taken out of a vat good for use as a starter?

Mr. Publow : It is of absolute importance that there should be milk fit for a starter in every factory. The average milk about a factory is not fit for this purpose. To make a starter properly pasteurized milk should be used. I would recommend that you get a pure culture. It can be got from the Dairy School at Kingston or the Agricultural College, or from Hansen's Laboratory. You get enough for four or five pounds. Get your milk for starter from the cleanest can that comes into the factory. Keep that milk up to 180 degrees in a clean vessel. Stir it with a dipper for an hour, and cool it down to 80 or 76 degrees, when the culture should be added, maintaining this temperature at not higher than 80 degrees for eighteen or twenty hours. If you get a pure culture you will get the milk nicely thickened and with a nice acid flavor. The proper flavor should be a "clean sour" taste; nothing bitter about it, and with no foreign odor. Now, this starter will not be fit to use the first time or two, as it will then have a sour or yeasty flavor, and therefore it is not advisable to use the first or even the second lot. Take some more pure milk and treat it as in the case of the first starter. Add about 4 per cent. of what you made the first day,

and the result will be likely a good, clean starter. Once you get a satisfactory culture see that you propagate it. We have two men who carried a starter over in this way for two months, and it was just as good as at the first. Some starters run out in three or four days, and some in a week or two. If you would carefully nurse a good, clean starter, I do not know how long you could keep it. Have a special place for your starter. Do not make it in the factory, where something injurious may be floating around. Partition off a portion of the establishment, and keep it clean, as you are dealing with bacteria.

J. A. Ruddick : Adam Bell, of Tavistock, the well-known Western Ontario dairyman, whom many of you know by reputation, carried a starter for nearly five years; and it was only through the neglect of one of his men that it got bad. A number of cheesemakers in that part of the Province have been in the habit of going to Mr. Bell's factory and getting a starter. Mr. Bell has carried on this work by being careful and exact in his methods.

Mr. Publow: The alkali test will help one in handling a starter. In any event, a starter should be kept from becoming too sour or ripe. If you find that by putting in two per cent. of propagation it becomes too ripe, then use only one per cent., and you can control it in that way. If you let your starter go on too far it will be spoilt; you cannot get it back by any means, for the flavor will be ruined. If it is not cooled at the start it will not be long before it will go off in flavor. Make your starter at as near 60 degrees as you can. I went to one large factory on one occasion, as they begged me to come because their cheese was at fault. The conditions there were anything but favorable for the making of good cheese. They were using a starter from a can of milk dipped out of a vat; it was full of flies, and yet they were blaming the farmer and everyone else. Now, that is abusing a starter.

J. Echlin : I would like to know how much cheese that man would be able to make from that 200 lbs. of milk—that can full ? Would it largely go into the whey vat ? What amount of casein or butter fat could he retain in his work with that thick milk ?

Mr. Publow : He would simply lose all that he put in, and a great deal more.

Mr. Fraser: Do you put water into the starter ?

Mr. Publow : Sometimes I do and sometimes I do not. It is immaterial. If you add any water pasteurize it with the milk. If you get your milk at 65 degrees it will not be necessary to add any water, for it will not become too thick. But above all things remember this: Never use a starter unless your milk requires it.

Mr. Gallagher : I believe that more cheese has been spoilt by the use of a starter than has been saved by its use.

Mr. Publow : What do you use a starter for ? Do not use it at all unless you know why you are using it. I told you in my paper that you require a certain amount of acid in the milk. You want it when you set. If the milk lacks acidity we then put in these lactic acid germs by means of the starter. We put in these germs to develop acidity by outgrowing the less desirable germs in the milk. When you have taints in your milk that you want to overcome, or when the milk is slow or lacks acidity, then, and only then, should you use a starter.

A Member : Providing you have milk that is working quickly, and is likely to make pin-hole cheese, would you use a starter ?

Mr. Publow : If you have had long experience and intelligence, and had a good starter, I would say put a little in. But remember that if you put it in you must make the curd drier. You will stop the pin-holes, but

you will have a dry cheese, and not of first-class quality on that account. We want a proper amount of moisture in the cheese, and I would therefore advise makers to mature the curd longer, if in the condition described. I would even advise washing the curd in that case.

Mr. Zufelt : Do you not think the best way to handle such milk would be to send it home ? (Applause.)

Mr. Publow : Certainly; but now we are considering what to do if we find we have the bad milk in the vat. I always advise every maker to receive no milk that he knows will not make good cheese. (Applause.)

Mr. Gardiner : You spoke of washing the curd. What if there was no good water about the factory ? I would like an opinion as to whether we should consider a factory properly equipped unless it had plenty of water of the purest quality ?

Mr. Publow : That is right. There is nothing more important in the equipment of a factory than good water.

Dr. Connell : I was at a certain factory on one occasion, and they asked me to drink some of their sulphur water. I was suspicious of the water, and had it examined chemically and also had a bacteriological analysis made. The examinations revealed the fact that the well was full of organic matter—barnyard manure—and I do not care for that kind of sulphur water.

Mr. McCready : The gas in water is often the cause of gas in cheese.

Mr. Publow : If you have gas-formers in water they will surely develop in the cheese.

Prof. Robertson: What do you want to start ? You never can get far on in any sort of work unless you know what you are trying to do. What do you want to start? Mr. Connell would say "fermentation." What sort of fermentation ? There are two sorts of fermentation—one that goes on making changes as the result of the presence of something that has not life itself. This, the unorganized ferment in milk, is what cures cheese; the casein that makes it soft. Then there is the fermentation that has life —living germs. The sort you put in the starter is one that has life itself, and will make changes in cheese. One of them is that it makes it easier to separate the curd and the whey. That is one of the results of the lactic acid germs. The fermentation caused by lactic acid germs is wholesome; but that which comes from excreta spoils the very thing you want to preserve—that is, the flavor that comes in the curing of cheese. But the germs that produce flavors are not necessary to the curing of cheese. I have seen cheeses cured that were frozen the day after they were made, and they had no flavor because of the lack of lactic acid.

A Member : How do you test for fermentation ?

Mr. Publow : In making a fermentation test first have a clean bottle. I would recommend one with an aluminum top and smooth on the inside, so that it may be easily kept clean. Be sure that the vessel is clean: it should be sterilized. Remember, you are working with fermentation. Do not simply wash the bottle with ordinary factory water, but see that it is thoroughly scalded with clean water. Put a sample of milk in the bottle and heat it up to 90 or 100 degrees. Put the rennet in in its purity—about five or six drops. Take the precaution to clean the knife, and everything connected with the test. If you have any bad odors in the bottle it will develop there.

Mr. Gowan : I understand Prof. Robertson to say "an enzeme of the milk." I rather thought that it woud be more likely to be an enzeme of the rennet.

Prof. Robertson : I should also say that there was an enzeme in the rennet. Dr. Babcock attributes the results of curing to both enzemes—those in the milk and those in the rennet. But cheese has been cured by the rennet.

R. M. Ballantyne : I believe that an unclean starter has been responsible for a great deal of poor cheese. A large percentage of factories are sending to us sour cheese and acid cheese, and I do not think they could send such sour cheese without using a starter. Too many cheesemakers are anxious to get through with their work as fast as they can, and they will use an acid starter, which causes a good deal of acid to develop in the cheese. I would like Mr. Publow to tell us how long a curd should stay in the whey, and how long it should be cooked. In the eastern district the turning of the cheese in the hoops in the morning is almost entirely neglected, and as a result there is a bad end on most of the cheese. The large bandages should be carefully trimmed off, and the whole thing folded neatly and the goods made to look presentable. If you turn the cheese in the morning, and after neatly trimming them put them back, it will change the pressing, and make a better cheese in every way.

Mr. Publow : I have laid special stress on cooking in my paper. I consider cooking to be one of the most important points in the making of cheese. At the Dairy School we make it very clear to the students as to when and why a starter is to be used. The object of a starter is to destroy undesirable germs. Cheese too often go sour because there is too much moisture left in the curd. Acid is produced by the sugar in the milk. You do not stop fermentation when you salt the curd. The acid develops in the curd, and not in the whey around it.

A Member : If all the milk of the patrons was kept at the same temperature as that required by the factory, and delivered at that temperature, would not that be a great improvement, and one much appreciated by the cheesemaker ? The great difficulty that the maker has to contend with is the unevenness of the temperature of the milk as delivered at the factory, and the consequent variety of maturity of the milk.

Mr. Publow : More attention will have to be paid to the condition of the milk as furnished by the patron. If the milk is kept clean, and at a right temperature, there will be no occasion for the use of a starter. The proper temperature for milk for a cheese factory is about 60 to 65 degrees. I would recommend the cooling of milk where it goes above that. It is better not to use a starter, and one need not be used if the milk has been kept in the proper condition.

Mr. McIntosh : Would you mix the milk of the night and morning ?

Mr. Publow : I would not mix the night's and the morning's milk. One milk would raise the temperature of the other. However, if you have to mix them it is better to first cool down the morning's milk to the temperature of that of the night's milk. We find that the lactic acid germs grow fast at 65 degrees. We have found milk ripen very fast at that temperature. If you will leave a can of milk any length of time at 80 degrees you will find the flavor is going off; but if it has been cooled down to 60 degrees that same milk would have had a delicious flavor. If the flavor goes from the milk you cannot get it back again. For cheesemaking we want a sweet and nutty flavor in the milk.

Mr. McLagan : What do you think of milking machines. I understand that the Australian official appointed to enquire into the matter reported favorably.

Mr. Ruddick : The milking machine was tried in New Zealand and abandoned.

Mr. Singleton : It is very important that we do not go away from here with any misconception regarding this starter business. If the farmers produce milk of the proper kind and quality, and get it to the factories in the right condition, the cheesemaker does not require a starter, and it is therefore not right to use one. The use of the starter is simply to remedy a difficulty already existing in the milk.

Mr. Publow : I have already stated two or three times that there should be a proper handling of the milk from the beginning, in which case there will be no occasion to use a starter. A starter should be used only when the milk has become deteriorated. Have the right fermentation of the milk from the first, and a starter will not be required.

H. S. Foster, of Knowlton, Que., President of the Bedford District Dairymen's Association, was introduced, and said : It is a pleasure and a profit to me to be able to once more attend the annual meeting of the dairymen of Eastern Ontario. The care and handling of milk is a question of great importance. I would like to see this Association take hold of the only right way of handling factory milk, and that is doing the hauling by contract. By this method we are likely to get the milk in much better condition at the factory. We must handle our milk upon a much larger scale—there are too many small factories—and the milk must be properly hauled. This improved method of carrying milk to factories has been adopted with advantage in Denmark, and why not here ? The Danes have taken the cake for butter, and we should come to their methods. The question of better care of our stock while in the stable is also an important one. The matter of ventilation of stables is deserving of more attention than it has received. The lactation period of the cow is also a subject that we should carefully consider as dairymen. I claim that with cement floors in our stables, and with proper ventilation, we may have dairy work going on steadily in our stables for ten months in the year. I have started a system of ventilation in my stables, that has given me much satisfaction. Mr. Foster then explained his method of stable ventilation, which consists of air shafts extending from the top of the building, just under the eaves, to near the floor. By adjustment these air shafts may be opened or closed at will, and by keeping track of the direction, etc., of the wind, a marked improvement in the state of the atmosphere of the stable was assured. The speaker said that he never saw cattle come out of the stable with brighter eyes than did his animals under thas plan of stable ventilation.

THE COOL-CURING OF CHEESE.

A paper on the above named subject was read by J. A. Ruddick, Chief of Dairy Division, Ottawa, which appears in the report of the Western Association. There was a request that Mr. Zufelt give his opinion on the subject, which he did as follows :

L. A. Zufelt : The question of cool curing of cheese is one of great importance and should receive the careful consideration of all interested in dairying. These experiments conducted under the supervision of Mr. Ruddick, I think have proved beyond a doubt that the quality of the cheese is very materially improved saying nothing about the saving in shrinkage.

The quality of the cheese should be our first consideration, and we should do all in our power to improve it, and if the means taken for this brings about a saving in weight, so much the more reason it should be adopted.

While the Department has been conducting experiments along the lines

of lower temperature, nature has been seconding their operations on a much larger scale. We all know this has been a remarkably cool season; also the quality of the cheese has never been so fine. The inference is plain On account of the low temperatures the milk has been in much better condition as well as the curing. Both have had their effect on the quality and in order to obtain the best results, improvement in the quality of the milk and in the construction of the curing-rooms should go hand-in-hand.

We must also look at this question from a financial standpoint. Can money be made from this improvement, and if so, who should stand the extra expense? We have two classes of cheese factories; the joint stock companies where the patrons own the plant, and the private factories owned by individuals who conduct the business for so much per pound. In the case of the joint stock companies we may not experience much difficulty in persuading them to make the necessary change in their curing-rooms, but when we approach the private owners, then we will have to face a very difficult problem. The condition of the private owner is this. The price of making is cut down to a minimum, and on account of having no guarantee of the permanent patronage of the farmers they are very loth to invest any more money in the business. In many instances, which I can cite, after the owner has expended from one to three thousand dollars in putting the factory in first-class condition, the farmers have turned right about and put up, or encouraged others to do so, an opposition factory and we have the spectacle of two factories doing business perhaps at a loss, where one might have made a small profit.

This is the situation that the farmers have to face. If they wish to have their milk made into cheese which will be worth from 1-2 to 1c per pound more than they now get, then it is reasonable to expect them to pay the extra 1-8 or 1-4c per pound necessary for its manufacture. The farmer is the one who is directly benefited by any improvement in quality and they should encourage the private manufacturer to give them the best equipment, always keeping in mind that first-class service should have a fair remuneration.

Having satisfied ourselves that a lower temperature is necessary for the curing of cheese, the next problem to solve is the kind of building to be recommended. Now, I am not going to make any suggestions at this stage, only that they should be effective and capable of being maintained at the proper temperature with the least labor and expense.

Mr. Grey: We must have better milk at the factory, no matter what system of curing is adopted, for the quality of the cheese will be no better than the quality of the milk from which it is made.

The President: There will be deep mysteries in business so long as the world stands. But do not think for a moment that just because some Cheap John comes along and offers to work for nothing, or next to nothing, that you are going to make a fortune by having him as a maker. (Applause.) Such a man will lower the standard of making just as surely as he lowers the standard of living. You will suffer from him in the end. Hire a good man, for this Cheap John will never pay.

ANALYSIS OF CHEESE.

By Thomas Macfarlane, Chief Analyst of the Inland Revenue Department, Ottawa.

Mr. Macfarlane said that the subject of cheese ripening would no doubt be brought before the Association in its bacteriological aspects, as well as from the point of view of the practical cheesemaker. He was

however, of opinion that the chemical changes which took place during the process should also have consideration. The recent improvements in the methods of analysis had been such as to afford a prospect of their becoming useful to the dairymen. He proceeded to explain these improvements, exhibiting a glass tube 2 1-2 inches deep and 1 1-2 inches wide, contracted at one end to a tuberlature of 1-4 inch diameter. This tube is filled with so-called asbestos, or, more correctly, crysolite fibre, and previous to its being used is dried and weighed. Then a known quantity, in thin slices, of the cheese to be tested is introduced among the fibre, and carefully kneaded up in it. After drying the whole in the water bath, the tube with contents is weighed. The loss gives the moisture. The tube is then leached out with petrolic ether, drained, dried and weighed, and a determination made again of the loss, which gives the butter-fat. The substance now remaing in the tube, and belonging to the cheese, consist of casein and the products of the change which it has undergone in the ripening. Casein is of course insoluble, but this change results in the formation of substances, some of which are not only soluble in water but in alcohol. By treating the contents of the tube with the latter solvent, while hot, in a Soxhlet or Stutzer apparatus, and then drying and weighing the tube, the loss to alcohol is ascertained, and this number it is proposed to utilize as a measure of the ripening which the cheese has experienced. The alcoholic solution contains the substances which give to the cheese its characteristic odor, and probably consist of unorganized ferments or enzymes, with about 8 per cent. of nitrogen. If the tube is then extracted with water a further loss of soluble matter is sustained, which is probably of the nature of peptone, and carries about 12 per cent. of nitrogen. The nitrogen contents of these products of the alteration of the casein is thus lower than the percentage contained in the casein itself, and indicates a loss in the ripening, probably in the shape of ammonia compounds, some of which are volatilized in the drying. By taking the constituents of the cheese, less water and fat, and ascertaining the percentage of them which is soluble in alcohol, a measure of the degree of ripening is obtained. For convenience sake the name of "Caseids" is given to these constituents which consist of casein and its products, and the measure referred to is known as the alcohol soluble caseids. Mr. Macfarlane quoted many of the figures given in the following table by way of illustrating his statements :—

Description of cheese.	Moisture.	Butter fat.	Hot alcohol. extract	Hot water extract.	Residue.	Caseids in cheese.	Alcohol extract in caseids.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
Canadian No. 1	25.10	39 00	8.48	5.72	21.70	32.45	26.13
Canadian No. 2	28.14	36.16	11.06	6 94	17.70	32.25	34.29
Gruyere	31.06	27.84	11.64	7.66	21.80	37.16	31.32
Imperial Potted	30.72	34.19	9 58	6.76	18.75	30.77	31.13
McLaren's Imperial	29 99	35.79	10.48	7.16	16.58	30.21	34.69
do	29.06	34.62	10.72	6 60	19.00	32.22	33.21
Glen	33.20	33.60	11.36	7.50	14.24	30 06	37 79
Oka	43 60	26.20	9 56	7.80	12.84	27 09	35.29
do	47.40	20.54	11.03	5.49	15 54	27.24	28.40
Bow Park	32 40	32.36	11.46	6 62	17.16	31.67	36.19
Limburg	42.04	26.12	12 59	7.72	11.53	28.52	44.18
Hague	45.74	9 86	19.00	7.54	17.86	40.72	46.66
Roquefort	32.70	30.10	15.66	8 24	13 30	28.41	46.99
do	33 65	34 89	15.53	5 87	10 06	25.83	60.14
Camembert	48 40	28.82	13.38	6.54	2.86	18 87	70.91

Mr. Macfarlane strongly recommended the adoption of this method of analysis to the authorities of the Dairy Branch of the Department of Agri-

culture, and expressed the opinion that its adoption in conjunction with the practical tests employed in the experiments on ripening cheese in cool storage would tend to obtaining a clearer insight into the nature of that operation.

Mr. Macfarlane also advocated the employment of more accurate methods of testing the milk supplied to our cheese and butter factories. He fully admitted that the Babcock test had done excellent service in the past, but maintained that further progress in dairying demanded the substitution of a test by weight in the place of one by measure. He thought it strange that we should insist on weighing with great care the milk delivered to the factories, and be content merely to measure the portion submitted to test, as well as the resulting fat. He believed that as the concentration in larger factories progressed, and larger combinations for business were formed, it would be possible to make use of the system of analysis practised in the Inland Revenue Laboratory, and pay the patrons for their milk according to its exact value. He believed there was no better way of reaching the man behind the cow than through his pocket. He recommended to the Association the motto of the old Romans—"Divide et impera," to which a distinguished scholar of this city had given the rendering—"Analyse, and gain the mastery."

RESOLUTION RE TRANSPORTATION.

Moved by J. R. Dargavel, seconded by H. S. Foster, and unanimously carried :

"That this Association believes that, next to efficiency on the part of patrons and makers, the success of our cheese industry is most dependent on reasonable rates for transportation;

That present rates are not reasonable is shown by the facts stated by A. F. MacLaren, M.P., at the Western Ontario Dairy Convention last year, facts which prove that the average freight rates in Ontario are 25 per cent. higher than in the United States; That we believe a sufficient remedy for existing evils will not be obtained until we secure the appointment of a Railway Commission with full power to regulate and adjust rates; Resolved, therefore, that this Association appoint delegates, to act with delegates already appointed by the Farmers' Association, the Ontario Fruit Growers' Association and the United Fruit Growers' Association of Niagara Peninsula to wait upon the Dominion Government and demand the appointment of such a Commission.

Mr. Dargavel : I will not speak at length to this resolution, because it speaks for itself. I am sure that it will meet with the approval of every dairyman, and of every agriculturist, and every business man in the country. It is a well-known fact that railways have no souls, and that they are at all times working for their own interests, and that as a rule they ignore the interests of the people and of the country when those interests conflict with their own. I would like every dairyman in Canada to read the address on this subject of transportation delivered last year to the Western Dairymen's Association of Ontario by Mr. A. F. MacLaren, M.P. He went fully into this matter, and proved beyond a doubt that we were discriminated against by at least 25 cents a hundred compared with our American friends. We are in open competition with our friends across the line, and we should be put on a par with them. (Applause.) Then there is the discrimmination of rates as between different localities within our own country. These irregularities should be remedied.

Mr. Foster : I am pleased to second that resolution. If there is anything that the people—especially agriculturists of all classes—should unite upon, it is upon this question of railway rates. We should have matters placed upon a fair basis. I do not think I can do better in this connection than read you a list of C.P.R. rates on butter and cheese to Montreal :

—	Distance to Montreal.	Rate per 100 lbs.	Rate per 100 lbs.	—	Distance to Montreal.	Rate per 100 lbs.	Rate per 100 lbs.
	Miles.	Butter. cts.	Cheese. cts.		Miles.	Butter. cts.	Cheese. cts.
Toronto	338	23	23	Magog	89	22	18
Peterboro'	262	23	21	Sherbrooke	108	23	19
Hungerford	199	22	20	West Shefford	61	20	16
Bathurst	148	16	15	St. Johns	29	12	10
Perth	140	16	12½	St. Hyacinthe	68	15	13
Abercorn	75	23	15	Versailles	36	17	12
Cowansville	57	21	14	Scotstown	150	29	24
Cookshire	128	25	22	Bury	137	25	22
Brigham	52	21	14	Valleyfield	32	13	10
Farnham	44	20	13				

The President : We want better facilities for carrying our goods, better refrigerator cars, and fit men to take charge of our dairy products both on the railways and on the steamships. (Applause.) We may as well whistle to the wind as to talk to the railways only. We must get after the Dominion Government, and see what they can do; and they can do something if we are united all along the line and determined that these troubles—these discriminations and neglects—shall be remedied. (Applause.)

Mr. P. W. McLagan, Montreal : I am glad to be here, with several of my fellow dealers from Montreal, in answer to the kind invitation extended to us buyers. I have listened with much interest to Mr. Ruddick's address on the cool-curing system, and I must congratulate him and also the Government, on the zeal and interest he has shown in these experiments. I hope he will continue these experiments, b cause I think he is not yet at the end of the results. The Governments of both Ontario and the Dominion deserve credit for what they have been doing in an experimental way. It is important that we should endeavor to obtain the very highest quality in our butter and cheese, because the competition in the old country is now very much more for quality than for quantity. The "Pensylvania Skims" were so thin and dry that they were known as "poker chips." Of course only a select few here know what that term means. (Laughter and applause.) They were better fitted for the manure heap than for the cheese box. An official once refused to pass a consignment because they stunk so; yet this same batch of cheese was afterwards put into tight boxes and officially passed. That sort of thing was once permitted, and it paid for a time, but only for a time. We cannot do that kind of a thing now. We must have cheese of high quality, or our foods will not sell. We are finding that other countries are waking up to the importance of this great dairy industry, and they are doing their very best to find out the kind of thing that the English people want to eat; I believe that the people of England will give us the preference provided we have as good as thy can get from other places. "It is up to you," as the saying is, to spare no expense to produce the very highest quality possible of butter and cheese. I cannot but think that the idea of licensing cheese factories is a good one. We should license only such factories as were equipped to a high standard; and there should also be a high standards of efficiency for the makers—the certification of makers should be of such a standard that the possession of the certificates would mean something

to the holders. And I would like to see the maker suspended if he failed to produce a certain quality of goods. (Applause.) His certificate should be looked upon in the same way that a master mariner regards his ship certificate.

J. A. Vallancourt, President of the Quebec Dairy Association, was introduced, and received a hearty greeting. The speaker excused himself as being at a disadvantage in using English instead of his mother tongue, the French language; nevertheless, he spoke with force and interest. He also said : I did not expect to speak at this gathering, but I came here to learn, and I must say I have already learnt much that is both interesting and valuable. I am here by invitation, not as a cheese and butter merchant, but as President of the Quebec Dairy Association. I am glad that the sister Associations have such good feeling existing between them. (Applause.) You will remember Hon. Mr. Fisher saying yesterday that Ontario cheese was superior to that of Quebec. I quite agree with him in that regard, but I think that our Province of Quebec has the better butter. We have a model Dairy School at St. Hyacinthe. We have also forty dairy syndicates in the Province of Quebec. But the thing we have to fight against most is the fact that we have so many small factories. The roads in the spring and fall are very bare, and that makes traffic difficult at times, but I understand from both Governments that this very important matter will be remedied before long, and we shall enjoy improved roads in many parts of the Province. Farming is something more than a mere profession or trade; in my view it is an art. By farming to-day one man is getting rich and another is growing poor or poorer, just struggling for an existence. The man who starts in agriculture must be well equipped for the work mentally. The man who would succeed in any walk of life to-day must understand his business, look for small profits, and do his work well and quickly. Perhaps I should not say "quickly," for unfortunately too many cheesemakers are inclined to finish their work too quickly. (Laughter and applause.) I sincerely hope that the day is near when all our cheese and butter will be of such even quality that it can all be simply named "Canadian," which will stand for excellence of quality, and that there will be no difference made between the product of Ontario and Quebec.

J. C. McKergow, Montreal : As a Montreal buyer and exporter of cheese I am delighted to be present at this large and representative gathering of dairymen. We have had a year of remarkable prosperity in all branches of agriculture, and we should be fair in our judgment as to the causes of that prosperity. Such gatherings as these have had much to do with the advancement of the dairy industry. Prof. Robertson has told us that education meant the removal of ignorance. In that case many persons here—myself among the number—have been educated to some extent while attending this convention. I was much pleased with Mr. Publow's address this morning, and particularly so with the paper read by Dr. Connel. The doctor brought the question of a pure, clean dairy product before us in a very interesting and concise manner. I always knew that milk was a strange thing, but until Dr. Connell's address I never knew that there were so many millions of those creatures called bacteria in it. To-day the producer and the consumer are coming very close together; many of the agencies that once existed have been wiped out, and some day I expect that we buyers and exporters will be wiped out, too. We have institutions in Montreal to-day that take the goods from the producer and hand them over to the consumer. Many of you do not know who the consumer is, and you do not care; but you should care. It is all very well to talk about cultivating this culture or "starter" for improving the quality of your cheese,

but you should also cultivate the acquaintance of the consumer. The merchant cultivates the consumer as well as he does the producer—perhaps more so. There are many ways of consulting the consumer, and he wants many things. If you give him 25,000,000 of germs to a square inch of chees he will after a while want very little of it. (Applause.) You must send him the best made cheese from the best milk. The consumption of cheese is no greater than it was fifteen years ago, but the consumption of butter has increased tremendously. We have no competitor in the kind of cheese we make here, and we send about 60 per cent. of the total import of cheese into Great Britain. But because of that we must not rest. But in making butter and producing hogs the dairy industry can be still further extended.

Since I went into business we have about quadrupled our export of Canadian butter. But while England probably imports $100,000,000 of butter, we send her only about $7,000,000 worth of that product. We must increase our shipment of butter. Let us give the British consumer what he wants. If he wants salt and moisture in his butter put it in. It is a fine thing to be able to get 20 cents a pound for salt and water. (Laughter and applause.) The two great points to my mind in the future of this trade are cool-curing and transportation and I was glad Mr. Ruddick emphasized the point of having the milk cooled from the cow to the factory. There is one thing that has always pleased me on the part of the Agricultural Department, and that is that it is not run to make money for the Government, but is operated in the interests of the farmers and the public generally, and at the smallest expense relatively of any Department of the service. I do not understand why the Minister of Agriculture is so modest, and that he does not ask for a $1,000,000 instead of $100,000. (Applause.) We have a good lot of agricultural officials. When we first started the cold-storage business we were told by some that we should not put butter in cold storage or we would ruin it. Well, we got it down to 40 degrees, then to 30 degrees, then to 10 degrees, and then to zero, and we found that the lower temperature the butter was kept at the better it was. There should be a temperature of not more than 20 degrees in every steamship sailing from Canada and carrying our dairy products. (Applause.) We would prefer 10 degrees, but for the present that may be too hard to get, for when we go below 20 degrees on shipboard it is a costly matter to the owners. Our cold storage system at Montreal now costs us $150,000, but it pays us over and over again. We must have the best accommodation and pay for it. You cannot travel first-class on a second-class ticket, or take your cabin on a steerage ticket. If we get the best possible accommodation for our shipments of dairy produce it will cost us something extra, but that extra cost will be made up over and over again by the increased price for our goods.

Hon. Mr. Fisher: I must say that just as soon as I bring down a proposition to Parliament, and show the necessity of our doing something to foster agriculture, the House is generous enough to vote me sufficient money to help to carry out the work. I do not lay claim to any great modesty, but I ask for all the money I can see my way clear to expect to get from Parliament, and to use to advantage.

W. C. Edwards, M.P.: My main occupation is milling and dealing in lumber, but I am also largely concerned in stock growing. However, I have a dairy farm, and have embarked in that business to some extent. I am glad to be present at this convention, for I have very much to learn. There is as much yet to learn in this great dairy industry, as well as in any of the other pursuits of agriculture. The advancement in years past

has been very great, but the advancement in years to come will be still greater. During the last quarter of a century the cheese industry has been greatly developed in Canada, and I hope that we will devote as much attention to the development of our butter industry. Canada is in an ideal position for the production of good butter, as well as for good cheese. We are away ahead of our neighbors in the possession of natural advantages for dairying. In my opinion the first requisites for successful dairying are good soil and climate for the growing of grasses. We possess these to a wonderful degree. Our pastures are first-class, and we have plenty of water. That is the very reason why Quebec occupies an advantage over Ontario in the matter of butter-making. Now possessing these primary things, what are the next requisites? Good food, a proper method of feeding well performed, and healthy animals in well-ventilated stables, kept in the best possible condition as to cleanliness and general care. We are now putting up an establishment on a farm where heretofore lumbering has been done, and we hope to make a first-class dairy farm out of it in time. I am taking water from a spring on the mountain side some 2,500 feet from the factory, and am running it through the building. I am going to have a first-class man to manage the factory, and I hope to make it an object lesson to the farmers of the surrounding district. (Applause.) I will likely lose money in doing this, but I will be repaid if I render any benefit to my neighbors. It has often occurred to me that there are too many small cheese factories. It would be much better to have larger factories, because they could be better built and equipped and better conducted generally, and at a much less cost for the amount of work done. Our work must be less slipshod and more systematic in the future. Let me again urge you to keep up, and if possible improve, the quality of your product. Under no conditions must our cheese and butter be allowed to deteriorate in quality. I hope you will allow no country—not even Denmark—to excel you in the production of good butter or cheese. If you will continue to improve from year to year you may always be assured of a leading place in the markets of Great Britain. I will say to the Minister of Agriculture that on any vote that is requisite for the carrying out of all that he may do for dairying he may count upon my support, and I think that I can also speak for my Tory friend, who is here with me (Mr. Kidd). When Sir Wilfrid Laurier was forming his Administration we discussed the portfolios which were considered as most important. I told him that, while certain portfolios had been generally regarded as the greatest, I was of opinion that the two most important portfolios were those of Agriculture and the Interior. (Applause.) And that is my opinion still. I am glad that the dairymen of Eastern Ontario bear me out in that opinion.

THE TRANSPORTATION OF DAIRY PRODUCTS.

By Prof. J. W. Robertson, Agricultural Commissioner, Ottawa.

In the matter of "The Transportation of Dairy Products" we have difficulties of our own in this country that are part of our business difficulties—the long distances, deterioration from high temperatures which injure dairy products, and difficulties from freight charges. Of the latter I shall not speak this afternoon. It is quite enough to deal with the subjects of distances and deterioration in the products. After every effort has been made to prevent goods from deterioration, there still remains the necessity for someone's honesty and care and responsibility. If you had on the railways the best freight cars that were ever constructed for carrying

goods safely, and had on the ocean steamships the most perfect cold storage provision, those freight cars or those ocean steamships would never convey cheese or butter to Great Britain successfully if the men in charge of those freight cars and those steamships did not do their duty faithfully, wisely and honestly. A good deal is said about cold storage; but cold storage is not a remedy for carelessness or want of honesty in management. The human problem always stands up to me as a large one, and the railway man who leaves the door of the car open, the man who dumps his butter on the railway platform to wait for the train, and the ship's engineer who forgets to run the cold storage plant are all men lacking responsibility and carrying on their work without thoroughness. In England and in Scotland the cheese is not put in boxes. In New Zealand they put cheese in a crate. In our own country we have put them in boxes, and last year there was an improvement at Montreal, but there is still room for further improvement. In most cases the broken packages did not exceed 3 per cent., while ex-steamship there were nearly one-third of the whole lot broken. The Department of Agriculture is doing its best to improve methods of transportation. 254 sailings of large ships were observed and reported upon last year, and 127 had cold storage. In 1894 there was not a single ship from Montreal that had any cold storage, yet last year we had 127 sailings with cold storage. Thermographs were put on each boat to get at the facts, because that is how we make progress—by getting at the facts. Transportation should provide for the products being kept not only cool but clean, in temperature never above 65 degrees for cheese and never above, if practicable, 25 degrees for butter. It is not practicable on cars, but it is on steamships. Last year the Government arranged with the railway companies to put on more specially constructed insulated cars. A beginning was made. Those cars were insulated to prevent heating on the inside of the cars. I have known the inside of a car to be 100 degrees. That could not happen in a ventilated car where the warm air escapes, nor in a thoroughly insulated car which keeps the heat from passing through. These cars were so constructed that they could be used for general box traffic, and I believe next summer the railways will have nearly enough of such cars for the handling of such traffic. The refrigerator car for cheese is not a good thing unless the car be iced, because the cheese generates heat and there is no escape from it. During the two hot months of the season the Department arranged for 100 cars per week. Cold storage on steamships was not intended for cheese. Cold storage and cool storage are not the same thing. Cool storage for cheese should leave the cheese in first-class condition when it reaches the other side, where the temperature is kept to about 60 Fahrenheit. There are ten large steamships equipped like this—the steamship companies pay half the cost and the Government for two years half the cost, and then the equipment will be at the service of the trade and will prove profitable to the country. The reports from England state that the cheese came out better than from the ordinary part of the ship. After all, the character of the possible transportation determines in a large measure the volume of business. Before there was any provision for safe transportation butter had gone down in Montreal as low as 32,000 packages; last year it had got up to 523,000 packages, or a sixteen times increase in eight years. In the carriage of butter it had been complained that Canadian butter when delivered in England has a greasy surface. That is largely because the butter package has at some time been warm. Then there have been complaints that butter was mouldy between the boxes and the butter paper. Mould in itself is a vegetable product essentially, it is a number of plants growing on something. A plant does

not grow unless it comes from a previously existing plant. After the boxes are full if you pour some strong brine in the boxes that will guard against mould. Then poor paper is sometimes very encouraging to mould. As a matter of precaution every butter maker should line the boxes only with heavy excellent paper, which has been sterilized, so as to have destroyed all the spores that might have been there. It can be done by putting the paper in a brine—one ounce formalin to one gallon of water, and after the butter papers are soaked for half a day and butter put in them mould cannot be there. In the creameries of the Northwest Territories managed by our Department, we have turned out 20,000 packages of butter annually. There were 56 boxes in British Columbia, where mould was growing through the butter. Butter that is put up without salt is liable to get mouldy sooner than the other. When the butter is being held at the creamery even for a week cold storage should be the place to put it: and this cold storage should be cold, clean and sweet. We have cold storages at 20 creameries, and you can go through the whole of those rooms cooled by ice and there is not a place but you can strike a match on —either the floor or anywhere else. It is economy to conduct cold storage in the best way possible. Seven-eighths of all the ice in cold storage rooms or a creamery is used to consume the heat that comes through the walls, and only one-eighth to cool down the contents of the room. Cold water is not as good as ice by any means. Say that I take 1 pound of water at 32 degrees, which is freezing point, and one pound of water at 132 degrees, which is scalding point, and I put them together, what do you get? 82 degrees. Supposing that instead of taking the water one pound at 32 degrees I take one pound of ice at 32 degrees, adding it to the water at 132 degrees, what has happened? By the time the whole of the ice has melted the water is down to 32 degrees. On railways there are now running to Montreal cold storage cars from forty-eight starting points, taking up butter at the usual carload rates. I have found during the last ten years the managers of railways most willing to make improvements whenever I could show it was better for traffic. They say that the cold storage cars do not pay them. I have found the railway managers, men who are paid to look after the interests of their companies, and I have heard them say, "If that is good for the people, it is likely to be good for our companies." Then we have cold storage inspectors to look after this work. We have been doing this for the sake of finding out if the system is being properly worked. There are many farmers who do not cool their butter themselves, but leave it to get cool on the way to market. The trouble then is that another man's butter is damaged by the warm butter. I am strongly in favor of preventing the butter from any creamery getting into the cold storage car that draws a cent of subsidy unless it is down to 40 degrees at the creamery. The cold storage car is to keep the butter cold and not to make it cold. 629 car loads were examined critically last year at Montreal with the record of their condition being given and the condition of the butter; so we know a great many of the creameries that have been skulking in the matter. If they do not alter this this year the butter goes to Montreal in the ordinary cars. That means a loss of three cents per pound. We have had a man about visiting the railway agents. We have found the railway agents reasonable men, willing to do the best they can for the exporter. The creamery men should not leave their butter on the platform in the sun. If it may have to remain some time at the station let him cover it to keep it clear from the rays of the sun. A whole lot of butter that came on through steamships had not been cooled at the creamery. The record showed all the way from 56 as the highest average to 22 or 23 degrees. We

hope all the steamships carrying butter will have a record not above 30 degrees. In 1901 one was 30 degrees, whereas last year one was 56, another 43, and another 38 degrees Fahrenheit. The merchants of Montreal have been making some representations to the Department, and to the railway people, about the injustice of letting warm butter go into the steamship with butter that has been cooled properly. Again, I am quite in favor of the steamship owners refusing to accept any butter into cold storage unless that butter is below 40 degrees. If it comes on a through car and is warmer than that, it must, when it reaches Montreal, go into cold storage. Then steamships must give the 20 degrees all the way over. Those I have consulted say they can and will do it this year if we will keep out the warm butter. What I want to emphasize is the need to keep milk at 60 degrees right through from the milk pail to the grocer's counter in England. Iced cars on the railways and cool compartments on the steamships will enable us to do this. As to butter, the entire prevention of mould, which has become a menace to our business, will not remain so if butter paper is sterilized; and there will not be further cause for complaint, perhaps, if the railway companies will not receive into the cars or steamships any butter at a temperature above 40 degrees. If we make these improvements this year the difficulties of business will be overcome. It will, again, be to the trade benefit to give all the aid I can to get a reduction of rates; but the dealers here get their cheese carried into Liverpool market at less cost than those living in Ayrshire (Scotland), and they can get it sent to the London market as cheaply as those who live in the north of England. (Cheers.)

A Wieland, Montreal : I am pleased as a buyer of dairy products to be here. Most of the speakers have been speaking of educating all parties concerned. Education means learning. Canada has profited greatly during the past few years, especially in an agricultural way, by learning. Some years ago the exportation of cheese used to be about 2,000,000 boxes, against Canada's 50,000 boxes, while this year it is only 300,000 from the United States to 2,700,000 from Canada. The United States was trying to make as much cheese from as little milk and butter fat as possible, while Canada has been trying to put as much value as possible into the cheese. If the value is there the Englishman will pay for it, but if it is not there you cannot fool him long, and he will not want the goods. We have been learning lessons from New Zealand, and let us go back further and learn lessons from Ireland. Our establishment once handled a million sterling of cheese, butter, eggs and bacon of Irish production; but the Irish thought they knew best what the English wanted, and insisted on sending that class of goods, which was not to the taste of the best British consumers. The Danes, however, saw what the British really wanted, and sent over their dairy products and bacon and captured much of the market. The Irish have been getting to understand the English taste better, and will lick the Danes in time. You must have the best goods if you are to get the best markets. We must make butter in the best condition for carriage across the sea. If we could only get steamers that would carry our butter over to England in three or four days we would beat the Danes hands down. As to the paraffining of cheese, I do not think I am particularly pleased with it. I know that there are some paraffined cheese in Montreal that would not pass as fancy. There is something about it that seems to make the cheese a sort of neutral—without character. There does not seem to be a cheesiness about it. (Laughter.) These scientists are all right in most of their work, but they must be able to show us that the effects are good commercially. Nature has proven to you this year that cool conditions are

favorable to a better product of both cheese and butter. Try and keep your milk products cool, and deliver them in good shape, and a good article will be turned out. If you give the Englishmen a good article they will pay you well; if you give them a bad article they will not want it, or if they have to take it they will pay you as little as possible. In both Ireland and Denmark the hog accompanies the dairy industry. It is very peculiar that even in the making of bacon the Danes now exceed the Irish. There is a good deal of conservatism imbedded in the bones of the English people, and some of them still stick to the Irish bacon; nevertheless the Danes have a good deal of the advantage yet in the English market. The Canadians have taken the Danes as their pattern, and are doing well. I have been in England, and have compared both Danish and Canadian bacon, and have challenged my English friends to show me where there was any superiority in the one bacon over the other. There was a time when many dairymen considered the Montreal buyers as a compact body of robbers (laughter), but we are all coming to understand each other and to respect each other. I hate to reject cheese, and so does every buyer. If we get a good article, we are sure to accept it and pay a fair price for it.

Mr. Hinton, General Freight Agent, Canada Atlantic Railway, was introduced, and said: I think I can say that I am speaking for all the railways when I state that we recognize the importance of the dairy industry to our business and to the prosperity of the country generally. I have been greatly impressed with the facts brought out at this meeting. Prof. Robertson has very kindly defended the railroads in some respects. I think you who use our line will bear me out in saying that anything suggested to our management in the way of providing safe and careful carriage of dairy goods have been well entertained. Our dairy service is a growing one, and it is improving in every respect yearly. The Department of Agriculture has assisted us with the service. However, you cannot agitate along the line of a greatly lowered rate for dairy products without interfering with the efficiency of the service. The Department gave us a subsidy of $3 per car for refrigerator service, but there was not only the transportation to pay for, but it cost the company $5 a ton for ice. We now receive for our butter and cheese shipments no higher rates than when we used the old cars. For several years we offered to ice cars to any point required for ten per cent. of the ordinary charge. This would mean only one or two cents per hundred pounds. Only about 600 boxes were sent on by that system. Last season, with a good refrigerator service on our line, several shippers at competitive points simply loaded their cheese on the open decks of boats on the Ottawa and Rideau Rivers. These cheese have been left exposed to the sun for two days and dumped on the wharves at Montreal, while our cars, specially fitted with refrigerators, have had to travel light. It is not fair to score the railroads too much. We will put everything on a fair basis if the matter is brought to our attention. In last season's operation on our refrigerator system we did not hear any complaints. We only ask such rates as will little more than cover the cost of transportation.

John R. Reid: As far as I have become seized of the conventions that have been held in Ottawa during my ten years' residence in the city, this is the best of any kind I have ever attended. It is the best in the sense that you have come here with an earnest desire to do work. As I watched the 500 intelligent faces of the men and women listening to the addresses here this afternoon I said to myself: "There is the key to the success attending the dairy industry of Ontario." The interest that is taken by you in dairying is indicative of the push and perseverance that

characterizes Canadians, and is assisting us in the matter of empire building. We are engaged in the rearing up of a nationality on this continent that shall be solidified in the future. I believe that the dairy industry is the greatest of all the industries of this country. Our gathering is one of a highly educative nature. Again, I wish to congratulate you upon the manner in which your convention has been conducted.

GOVERNMENT RELATIONS TO THE DAIRY INDUSTRY IN THE UNITED STATES.

By Major Henry E. Alvord, Chief of Dairy Division, U. S. Department of Agriculture.

The polite invitation which affords me the pleasure of meeting this Association for the first time, and participating in the proceedings of its annual convention, was accompanied by the suggestion that my topic here should be the Government Relations to the Dairy Industry in the United States. I have, therefore, to present only a plain recital of facts which, it is hoped, may contain some items of interest, but which, as mentally passed in review, in anticipation, are largely suggestive, by way of contrast, of the more effective way you have of doing similar things here in Canada.

As preliminary to a general understanding of the case, it is necessary to refer to the comparatively limited sphere of authority vested in the Federal Government by the constitution of the United States and the broad range of control in commercial and industrial affairs reserved to the States respectively, which constitute the Union. All police powers are vested in the States; to them belong the right to inspect, regulate or prohibit the manufacture and sale of commodities which affect public health or welfare. Occupations and products may be taxed or licensed and regulated. All provisions for public education rest with the States. When it was proposed by the Congress to establish in every State at least one of those industrial institutions known as Agricultural and Mechanical Colleges, and now, in several instances, developed into State universities, constitutional objections were raised to using money in the Federal Treasury derived from taxation for such a purpose, and consequently the original endowment of 1862 was in the form of public lands which were the common property of the States. The Agricultural Experiment Stations were later (1887) established in a similar way, the Act of Congress making their support depend upon the proceeds of sales of public land. And both colleges and stations, although now largely, in fact, supported by annuities from the Federal Treasury, are under the almost absolute control of the States in which they are respectively located. The United States is therefore a "paternal government" in only a very limited way; theoretically it aims to do for the people only those things which they cannot do for themselves either by individual action or through any practical co-operation or combination of effort.

But in two ways the Government of the United States can and does constitutionally reach industrial affairs and affect them by legislation. The Congress is empowered to regulate commerce between the States and to impose taxes; and this taxing power is not always exercised solely for purposes of revenue. It is in the exercise of these two functions that the National Congress has made the only three laws among the Federal statutes which have any important bearing, even indirectly, upon the dairy industry. These are: (1) The Oleo law of August, 1886; (2) The Filled

Cheese law of June, 1896; and (3) the "new" Oleo law and Renovated Butter law of May, 1902.*

It is worthy of note that only one of these laws relates to a purely dairy product, and that of a peculiar character, and in a sort of secondary way. These are known as "revenue measures"; that is, they have special taxes as their prominent features, and this fact places nearly all of their administration under the Treasury Department of the government and its revenue officials. The Department of Agriculture administers only certain features of the butter parts of the last named law.

The principal provisions of these mis-called "dairy laws" are most conveniently shown by the following table:

Taxes Placed Upon Imitations and Substitutes for Butter and Cheese.

Product taxed.	Annual tax upon every factory.	Tax upon the product per 100 pounds.	Annual tax upon every wholesale dealer.	Annual tax upon every retail dealer.	Notes.
	$	$ c.	$	$	
Oleomargarine, uncolored	600	25	200	6	
Oleomargarine, colored like butter.	600	10 00	480	48	
Filled cheese	400	1 00	250	12	
Adulterated butter	600	10 00	480	48	
Renovated butter.....	50	25	None.	None.	

All manufacturers are placed under bonds to conform to all details of the law affecting their business, and factories, records, and accounts are subject to inspection and surveillance. All the products named must bear

* "Process butter" or "renovated butter" is hereby defined to mean butter which has been subjected to any process by which it is melted, clarified or refined and made to resemble genuine butter, always excepting "adulterated butter" as defined by this Act.

The following explanation of the definition of renovated butter, as it occurs in the law, has been prepared by the Department of Agriculture and is adopted for guidance of its officers:—

(*a*) This grade or kind of butter may be made from one or more lots, or parcels of butter, which has been or have been "subjected to any process by which it is melted, clarified or refined 'and made to resemble genuine butter, always excepting 'Adulterated Butter' as defined by this Act."

(*b*) The butter, to be subject to this definition, must have been melted—that is, so affected by heat as to become of sufficient fluidity to move in a continuous stream of even consistency from one vessel to another, by pouring or pumping, because butter can not be "clarified or refined" unless it be melted to that degree.

(*c*) The butter must, besides melting, have been subjected to some process by which it is "clarified or refined." Butter, or melted butter, may be clarified or refined by skimming, settling, aerating, washing, and other processes, through the action of heat, cold, agitation or motion, or rest.

(*d*) Butter thus melted and clarified or refined becomes an oil or fat almost free from taste and odor. To be again "made to resemble genuine butter" it must have restored to it the butter characteristics or similitude of texture, granulation, and flavor. For this purpose the processed or renovated butter is usually granulated by cooling, and churned or otherwise mixed with milk or skim milk, or buttermilk, or cream, sweet or sour. It may or may not have common salt or artificial coloring added. To "resemble genuine butter" the article must have passed through these or other processes, subsequent to melting, so that it looks, smells, and tastes like "butter," having a similar appearance, consistency, texture, and flavor.

(*e*) It may be assumed that the object of subjecting a lot or lots of butter to such a process is to remove rancidity, sourness, mold, or other fault or feature which has impaired its merchantable quality, or to otherwise renew or improve the product, so that the substance is truly "renovated," although such object is not expressed in the act.

(*f*) But if, in such process, "or in any (other) way," "any acid, alkali, chemical, or any substance whatever is introduced" or used, or if "there is mixed (therewith) any substance foreign to butter" (including any fat or oil other than butter fat), or if in any way the substance is made to hold "abnormal quantities of water, milk or cream," the substance or commodity is to be recognized and treated as "adulterated butter" under this Act.

(*g*) Renovated butter having 16 per cent or more of moisture will be held to contain "abnormal quantities of water, milk, or cream," and be, therefore, classed as "adulterated butter."

NOTE.—The definition given for "adulterated butter" is complex and involved. No such article is regularly made, or is it often found in market.

revenue stamps upon every original package as evidence of payment of special tax upon the contents, and prescribed labels or marks are added to identify the product. In the case of renovated butter there are other provisions, to be mentioned later.

Yet although Federal authority thus succeeds in regulating the manufacture and sale of the articles named, to a considerable degree, by exercise of the taxing power, the constitutional limitations would prevent the Congress from attempting such drastic measures as the absolute prohibition of making and selling oleomargarine, filled cheese, and skim cheese, as done without question here in Canada. Some of the States exercise such prohibitive power, as will be presently explained.

It has been already mentioned that the enforcement of parts of the law concerning renovated butter devolves upon the United States Department of Agriculture. The Secretary is directed to cause the materials, processes and products to be subjected to frequent sanitary inspection, with a view to securing a clean and wholesome product—and to cause the renovated butter to be marked, stamped and branded so as to ensure the commercial identity of the article when the subject of interstate commerce and when exported. Renovated butter, when exported, must be plainly and correctly marked. The Congress has also incidentally given the Secretary of Agriculture authority to be exercised in his discretion, for inspecting, properly stamping and certifying to the purity and quality of any or all dairy products exported from the United States. To accomplish this work inspectors of dairy exports have been appointed and stationed at Boston, New York, Chicago and San Francisco. But this inspection service has not yet become well established, because of the extremely small and variable export business in these products during recent years, excepting the articles renovated butter and condensed milk. The foreign trade in these two milk products seems to be steadily increasing.

As already stated, this work of supervising the manufacture and trade of renovated butter, and of inspecting dairy products for export to foreign markets, constitutes the only specific duty of the Department of Agriculture in relation to the dairy industry of the country prescribed by law of Congress. Yet the Department is enabled, under its general function as a bureau for investigating, collecting, and diffusing information for the benefit and promotion of agriculture in general to do much for the aid and advancement of the dairy industry, in all its forms and branches. To that end the Dairy Division was established in the year 1895, as a part of the Bureau of Animal Industry, and it is recognized and provided for by annual Congressional appropriations. This Division or office keeps well informed of the condition and needs of dairying in all parts of the country, as to production, distribution and markets, and of the dairy interests in all countries, so far as relating to or affecting those of America. It patronizes and co-operates with volunteer dairy associations in the several States, the special schools and all facilities for dairy instruction, and the research work of the agricultural experiment stations, for the benefit of dairying. Foreign markets for dairy products have been investigated by special agents, and tested by long series of experimental exports to countries on opposite sides of the two great oceans. This has been done as a matter of general information and to determine the suitability of the dairy products of the States for the distant markets, in case there should be such a surplus of production as to justify exportation. In co-operation with the best available agencies, educational comparative tests of creamery butter have been carried on, similar to the periodical collections and tests conducted at Copenhagen under the auspices of the Danish Government. And, simi-

larly, tests are now in progress upon a commercial scale, of the advantages of curing cheese at different degrees of low temperature. Investigations are conducted and reports made, upon the important subject of municipal milk supply, with a view to promoting improvement in quality and condition of the supply and the economy and efficiency of the service of distribution. The Dairy Division has collected and arranged materials and maintained technical exhibits of an educational character at several expositions in the States in recent years, as well as at the Paris Exposition of 1900. At the latter, fresh supplies of superior butter and cheese were kept constantly on exhibition for six months, besides condensed milk, cheese and butter expressly prepared for distant markets in warm climates. Bottled milk and cream, in its natural state, taken from the regular commercial supplies of New York and Chicago, were also sent to Paris fortnightly and shown there perfectly sweet, from eighteen to twenty-three days from the cow, as an object lesson of the efficacy of "cleanliness and cold" in improving the supply of market milk.

Information as to all of this work, as well as on other dairy subjects, is disseminated mainly by carefully prepared and well illustrated publications. These have been quite numerous and varied in character and have been widely distributed. Some of these dairy bulletins have been published in successive editions aggregating over 2,000,000 copies of a single title. Public meetings are often attended, similar to this convention. Officers of the Division are sometimes present at twenty such assemblies in as many different States in the course of a year, being thus enabled to keep in touch with representative dairymen and the condition and progress of the industry in all parts of the country.

The United States Department of Agriculture is unable to use public funds to directly assist dairy farmers or factories or the industry at large. In this respect we have been inclined to envy the means available, and the enterprise and wisdom in their use, so often shown by the Department of Agriculture and Dairying in Canada, in developing new dairy territory, improving creameries and cheese factories and their work, and subsidizing cold storage and refrigerated transportation by land and by sea, as well as promoting the introduction of Canadian products in the markets of Great Britain. Many of these admirable examples would be gladly followed at or from Washington, but for the character of our Government and the legal limitations of its work. But in the manner and through the channels described, as well as by direct correspondence, and in other ways, the United States Department of Agriculture is still able to give much advice and disseminate information, which seems to be regarded as beneficial to the dairy industry of the country and appreciated by many of those interested therein.

If we now pass from the Government of the United States and its agencies centered at Washington, to the several States of the republic,—a much wider range of legislative activity in connection with the dairy industry is found possible and in practice. The States have more drastic laws regarding imitations and substitutes for dairy products; laws for creamery and cheese factory registration and inspection; for regulating skim cheese; for supervising milk supply and maintaining legal standards for milk and its products. Forty-two different States have oleomargarine laws and several of these are unconditionally prohibitory statutes; thirty-two States prohibit imitation butter (or oleo) being colored yellow. Thirty one States have similar laws regarding filled or imitation cheese. Eleven have special restrictive legislation on renovated butter. Twenty-seven have established standards for milk sold for consumption, or delivered to creameries

and cheese factories. A few prescribe standards for butter, cheese, skim-cheese, condensed milk, skim-milk, and cream. In twenty-two States laws have created State officials, usually called Commissioners, to execute these various so-called "dairy laws" and to perform other duties in some instances.

Several States also provide dairy instructors and inspectors, make grants to aid voluntary associations of dairymen, and establish and maintain Dairy Schools.

The Agricultural experiment stations are also virtually Government institutions or agencies of "the State," and they bear very close and helpful relations to the dairy industry, especially where the latter is a leading branch of agriculture.

(But this is entering upon the subject of 'Organized effort for the promotion of dairying,' which I must defer for consideration at Brantford, next week.)

Statistical and other facts will now be presented in a condensed form, giving some idea of the present condition and aspects of dairying in the United States :—

The Industry is based upon a total holding of something more than eighteen million cows, over two years old, kept primarily for their milk product. Of these, over seventeen million are kept upon four and one-half million farms and the rest, or five and one-half per cent. of the milking stock, are reported as "not on farms" and mostly what are known as "town cows." Unfortunately, the total product of the town cows is unknown, as well as the purpose to which their milk is applied, but unquestionably most of it is consumed in its natural state. I estimate, roughly, that the total product of five and three-quarter million cows is used as market milk and cream, or condensed for preservation; that all the milk of ten and one-quarter million cows is made into butter; that 850,000 are cheese cows, and that the entire product of those remaining, nearly, one and one-half million, is consumed in the rearing of calves. The total number of cows given is from the census enumeration for the year 1900, and was at the rate of 237 animals to every 1,000 of the population. This was a smaller ratio than in earlier decades, but there is evidence that the cows of the country have greatly improved in productive capacity; in 1890, the census returns gave the annual milk product per cow as 315 gallons, and in 1900 this had apparently increased to 425 gallons. The quality of milk has also improved, for it now requires an average of 23 1-2 pounds of milk, the country over, to make a pound of butter, whereas 25 pounds were necessary some years ago.

Apart from the immense business in market milk, the conspicuous feature of the dairy industry in the United States is the associated or factory system of making butter and cheese. I understand this to be equally so in Canada. There, as here, the factory system is the growth of less than half a century. There are now in the States about 5,900 creameries and 3,900 cheese factories, and 50 condenseries. As far as cheese is concerned, the factory has almost entirely replaced domestic manufacture or farm-dairy cheese-making. Less than forty years ago the proportion of factory-made cheese was inconsequential; in 1890 it constituted over 91 per cent. of the total and 1900, almost 95 per cent. The movement from farm to factory is slower in the case of butter, but constant and notable; in 1880, less than 4 per cent. of the butter produced in the United States was made in creameries; in 1890 this percentage had increased to 15, and in 1900 to 28. Coincident with the extension of the creamery system, but exceeding it in rapidity of increase, has been the adoption of the mechanical method of separating cream, by use of the dairy centrifuge or separator. The first practical cream separator was operated in the country in the year 1879; there are now

at least 50,000 of these machines in use. 10,000 of them are power machines in creameries and factories. The greater part of the remainder are hand or light power, farm separators. The adoption of the farm separator has been at an astonishing rate. Unfortunately, no general statistics are available, but very interesting figures are given for Iowa, by the State Dairy Commissioner; the numbers in that State reported in recent successive years are as follows :—1898, 904; 1899, 1,762; 1900, 3,332; 1901, 5,231; and 1902, 8,325.

Although the results of this new departure are not altogether satisfactory, and many machines have been put into useless places and incompetent hands by the activity of selling agents, it behooves creamery managers and those having even broader relations to the industry, to recognize this movement as of importance and permanence, based upon true principles of farm economy, and to make the best of it, and shape their future plans and operations accordingly.

The total supply of the staple forms of dairy products in the United States, and the disposition of them, may be briefly considered. Cheese production has nearly trebled in half a century, and yet the increase has not been great during the last twenty years. In 1880, the annual product was 243 million pounds; in 1890 it was 257 million, and in 1900, a little less than 300 million. Twenty years ago nearly half of the annual cheese product of the United States was exported; now the portion exported hardly reaches ten per cent. This great change is the result of different causes, political, commercial and economical. Prior to the abrogation of the reciprocity treaty between the two countries, Canada had only half a dozen cheese factories and was one of the good customers of her neighbors. From half a million to two million pounds of cheese were annually sent from the United States to the north of the St. Lawrence and the Great Lakes. It was only when changed politico-commercial relations made it expedient for Canada to make her own cheese, that this country began to produce a surplus and entered upon the export trade which has since been so steadily and creditably increased. It is pleasant for me to recollect, in this connection, that just as Ontario instructors are now improving the Cheddar output of the cheesemaking districts of Ayrshire, so in the early days of Canadian factories, valuable lessons were given by able teachers and expert makers who came over here from New York and Ohio. In later years a misdirected commercial spirit led to an extensive prostitution of cheesemaking in the States, and the exportation of large quantities of low-grade skim-cheese, and filled-cheese, which naturally and justly did much to destroy the reputation of the States' cheese and the foreign market for it. During the same period, Canada fortunately escaped this grave error, and by a wise combination of government authority and healthy public sentiment, preserved the purity of her cheese, improved its quality and reputation, and forged ahead in the export trade, easily distancing her short-sighted neighbors. But a more positive cause and sufficient explanation of the rapid falling off of cheese exports from the United States in recent years, is the much greater increase in population than in cheese production, joined with a gradual increase in the rate of cheese consumption. The rate of annual consumption per capita appears to have risen from a trifle over three pounds to three and one-half pounds, during the last decade. At the present time, the country is practically consuming nearly all the cheese it makes, and consumption is still steadily gaining upon production. Nearly half as much cheese is now yearly imported as is exported. An indication of the trend to meet domestic demands rather than foreign trade, is the fact brought out by the recent United States census

that fifty six million pounds, or one-fifth of the product of 1900, was of sundry forms and varieties, other than the American factory standard or Cheddar type of cheese. Cheesemaking is not a favorite form of dairying in the United States at best, and it may be reasonably expected that in the near future that country will cease to export cheese in any quantity. Indeed it is more than likely that its demand for that article will soon exceed the home supply, and it may, at no distant day, become a buyer of cheese in Canada as well as in more distant markets, instead of a seller.

The enormous annual butter-crop of the United States, which may be stated in round numbers as 1,500,000,000 pounds, is, as already mentioned, still mainly a farm product. More than two-thirds of the whole is made on farms, and of this part nerly one-half is sold from the farms. We thus have, approximately, three-equal portions of 500 million pounds each, of farm butter used at home, farm (or dairy) butter sold, and creamery butter sold. The markets of the country are thus supplied annually with 1,000 million pounds, about equally divided between the product of (5,900) creameries and of farm dairies. Yet there is practically no surplus. Recently there has actually been no surplus of butter of the first quality. Exports amount to very little and in recent years serve only to work off, rather spasmodically, the accumulations of low-grade butter. As the result of the experimental exports by the government, creamery butter from the States has been sold month after month in English markets, alongside of the best Danish and at the same price. But when British merchants have sent orders for these fine goods, they could not be filled. New York was willing to pay more for fine butter, the product of the country, than London and Manchester would offer, on the Danish basis, less export expenses from America. Under these circumstances it is not surprising that the annual exports of butter from the United States, which ten to tweny years ago ranged from thirty to forty million pounds, have not only failed to increase, but have not in late years equalled the former record. Although the creamery system is still being rapidly extended and the total butter product of the country is annually increasing, the domestic demand seems to increase still faster. The demand increases even faster than population, for the rate of consumption is steadily growing. Statistics show that the yearly per capita consumption of butter in the United States has been as follows in different census years :—In 1850, 13.5 pounds; 1880, 16 pounds; 1890, 18.8 pounds and in 1900, 19.3 pounds. These facts sufficiently explain both the decline in butter exports and the rise in the average price of butter in the home markets of the United States.

Yet perhaps the most interesting phase of the dairy industry in the United States during the last decade has been the rapid growth and improvement in the business of milk for market and consumption while fresh. No other branch of dairying has received relatively so much attention, and none has shown such marked material improvement. The growth of large cities and towns, until nearly half the people of the country are so domiciled that they must use purchased milk, has greatly stimulated production for market. At the same time there has been such advance in the knowledge and practice of producers, such increased attention and efficiency in municipal supervision and control, such healthy rivalry between enterprising supply companies, and such admirable object lessons given by the establishment of numerous thoroughly up-to-date sanitary dairies and milk depots (like the praiseworthy City Dairy of Toronto), that the purity and quality of the general milk supply has notably improved. Much—very much—remains to be done along these lines. But the advance has been so decided and so generally recognized, that consumption has unquestionably

increased. The best possible estimates give rates of 215 pounds of fresh milk per capita per annum in 1890, and 237 pounds in 1900, or a gain of ten per cent. in a decade. According to this calculation, the people of the United States, in addition to enormous, but unknown quantities of buttermilk and skim-milk, consume annually in its natural state the vast aggregate of 19,000,000,000 pounds, if which more than half is the subject of trade, so as to belong to what may be called market-milk.

The geographical distribution of dairying in the United States is much more general than it was fifty years ago, or even twenty years. The fact that there are voluntary associations of dairymen in twenty-nine different States is evidence of this fact. There are only five States in the Union in which the value of annual dairy products is less than one million dollars. In sixteen States this value is from five to ten million dollars, and in fourteen States it exceeds the latter amount. The productive capacity of the five leading dairy States is shown by the following table compiled from the national census for the year 1900 :—

Five States of Greatest Dairy Production in the U S.—1900

—	New York.	Pennsylvania.	Illinois.	Iowa.	Wisconsin.
Number of milch cows	1,537,921	1,022,074	1,064.491	1,479,676	1,032,811
Total milk produced.....gallons	790,048,027	524,226,793	484,099,820	562,485,540	488,620,914
Butter:					
Made on farms..... pounds	74,714,376	74,221,085	52,493,450	61,789,288	44,739,147
Made at creameries:					
Solid packed..... do	33,201,440	13,475,287	30,256,887	74,795,240	55,841,488
Prints or roll .... do	7,691,164	23,698,594	3,849.825	2,438,024	5,993,105
Cheese:					
Made on farms.. ..... do	2,624,552	857,167	323,485	306,428	1,635,618
Made at factories:					
Standard factory.... ..... do	113,989,543	9,333,008	4,324.461	3,767,490	48,278,378
Other kinds ..... do	13,805,652	934.435	4,733,958	475,147	23,470,302
Cream:					
Sold from farms (not to creameries). .....gallons	305,387	99,895	51,848	...	.....
Sold by factories or creameries do	1,547,241	703,166	1,212.825	91 875	251,321
Condensed milk..... pounds	75,447,148	2,862,000	71,257,449	.....	3,466,516
Milk sold from farms (not to factories)..... gallons	175,389,915	62,423,867	64.617.627	15,422,246	11,127,696
Milk consumed by cow owners do	76,353,643	89,3 7,071	110,319.953	113,209,333	68,445.240
Skimmed milk disposed of.... pounds	294,942,151	200,197,422	216,492.194	477,164,867	391,774,486
Whey, sold ..... do	10,176,310	94,950	7,828,516	647,318	6,410,260
" otherwise disposed of .. do	25,246,487	6,364,328	1,754,500	4,364,428	79,495,694
Casein, dried .... do	6,232,264	3,103,281	1,784,559	3,800	101,300
Value	$63,845,198	$41,553,225	$36,691,616	$34,628,316	$34,951,483

The aggregate annual value of the combined dairy products of the United States is, approximately, $600,000,000. Comparing with the staple crops and classified agricultural products of the country, the dairy is exceeded in value only by (1) meats and meat products, and (2) the crop of Indian corn. A large share of the latter is directly tributary to the dairy and is converted into milk. It is therefore manifest that this branch of farming in the neighboring republic is of a magnitude and importance which fully justifies all that is done for its protection and promotion by the governments of the several States and that of the Federal Union.

ONTARIO AGRICULTURE, PAST AND PRESENT.

By C. C. James, Deputy Minister of Agriculture.

One hundred and twenty years have passed since the first settlers came into Upper Canada to make homes for themselves, and to begin the development of our great agricultural resources. This period represents four generations, and, just as we begin to work out the problem of the fifth generation, we may take a hasty run over the history of the past four. These four represent in the main four phases or periods of our agricultural progress .

1783 to 1813. When the first settlers gave up or were driven from their farms and possessions, which were located mainly in the States of New York and New Jersey, and set out to find a new home in the land, over which the British flag was recognized, and where British laws still prevailed, they came to what was then the western part of Quebec, the country along the Upper St. Lawrence and bordering on Lakes Ontario and Erie. This country was almost an unbroken forest, cut here and there by the Indian trail or the small clearing for an Indian village. The only natural highways were rivers and lakes; all else was a dense forest, here of pine, there of hard wood. Once brought in and landed on these unfamiliar shores they were well-nigh cut off from the world. Before them and around them was the forest. Homes had to be made, the forests had to be cleared. What was the occupation of the settlers in this first generation ? Shut up by themselves, having little communication with the outside world, they were compelled to provide as far as possible for themselves the necessities of life. From the trees of the forest they built their log houses and supplemented the few household utensils brought in from the south by wooden implements and furniture ingeniously wrought with simple tools. Their clothing was a combination of deerskins and homespun. The wild animals of the forest and the abundant fish of the streams helped out their limited supply of grain. Under these primitive conditions what did the farmers produce for sale ? What was the nature of their surplus ? Towards the latter years of the period referred to the surplus or farm exports were largely made up of ashes and timber. The former consisted of the crude ashes resulting from the burning of the trees in clearing, black salts, or the more concentrated and refined pearl ashes. In some sections black salts became the leading medium of exchange between the settlers and the proprietor of the early general or departmental store. The square timber was transmitted by way of the streams to the lakes and thence on large rafts down the St. Lawrence to Montreal and Quebec for shipment to the British Isles.

1813 to 1843. After the war of 1812-14 many regiments were disbanded, and in 1815 and 1816 the old soldiers began to move across the Atlantic to find new homes on the Crown lands of Upper Canada. They were given homes in what were then the rear townships, the second tier, just behind the frontier townships settled in the previous generation by the U. E. L.'s and Americans. The townships of Lanark County afford the best example, and that section is still referred to as the military settlement. Sufficient land had now been cleared to give a good output of grain, and wheat and flour became additional items of export. The wheat was ground at the King's mills and sent down to Montreal in Durham boats and batteaux. Thus we see a new addition to the population, and a decided change in the surplus of farm products.

1843 to 1873. The British immigration that began in the previous generation and assumed such large proportions about the beginning of this per-

ied now referred to, introduced a new element into Upper Canada farming. The settlers from over the sea brought with them a love for live stock, and importations soon made a wonderful change in the farming carried on—dairy cattle from Ayrshire, beef cattle from Yorkshire, sheep from the Scottish hills and the English Downs soon wrought a decided improvement, and to the grain growing of the previous generation there was added the production of beef, mutton and wool in quantities that permitted exportation.

1873 to 1903. The intermingling of the varied nationalities, the more thorough cleaning up of the farms, the introduction of machinery, and the stimulus of the enterprising people to the south, directed and assisted by the many lines of organization ailed and initiated by the Government, have brought on agriculture to a very high state of efficiency. In this period are added cheese, butter, bacon and fruit as exportable products. If time permitted we could show how the various associations, the Agricultural College and the other organizations working under the Department of Agriculture have contributed to the present prosperous condition of our farmers, perhaps as prosperous as has ever been known except during war time, when prices have been abnormally inflated.

Here, then, we have the four periods or generations with their surplus or market products; ashes and lumber; grain; meat and wool; dairy products. What does this mean? A rising from crude products to more complicated, from the products of simple labor to the products of skill. We have been putting skill into our work and broadening out our field of operations until now the Ontario farmer requires a special training for his work and needs all those educational and transportation assistants that other lines of manufacture demand.

What next? What is the farmer to do in the future? Along what line is he to work with hope of success? These are important questions, and the farmer who is likely to succeed must study the future as carefully as any other manufacturer. It will not do for him to produce something with the expectation that somewhere in the world there is a person ready to take it. He must produce what the market will take from him at a fair price. We cannot burn up our remaining trees to make potashes; we cannot supply the home demands for lumber and timber of many grades; we cannot grow grain to compete with the prairie farmers of Manitoba and the Northwest. It is a question whether we shall be able to produce beef and mutton at a living price unless we can duplicate in this Province the Chicago Stock Yards. In dairy products we find new competitors. Denmark and Ireland remain in the British market, though the United States find their home demand growing faster than their supply. But Argentina and Uruguay, Australia and New Zealand are our competitors, and latest to enter the field comes Siberia, backed up by the Russian Government. What does this mean? More skill. We can hold our own in dairying only as we make our workers more skilful and only as we keep up the intelligence and industry of all concerned in this great industry we must carry still further the line of progress that we have been unconsciously following for the past 120 years. What we have said about dairying applies equally to fruit growing and the pure-bred stock industry. Progress and improvement are the only sureties we have of success.

Having looked over the past and made a brief reference to our present position, what are some of the great problems confronting us or that are to be the great factors influencing our work in the next generation? What are the questions to be solved in the thirty years, 1903 to 1933?

Here are four of the problems for us to solve: Labor, fuel, transportation and possibilities in electrical development.

Man after man has come to us and stated that he must either secure help (and it seemed impossible to secure it) or else give up his farm. The proprietors of a western Ontario sugar factory actually tried, a short time ago, to secure 100 to 150 Chinese laborers for the purpose of assisting in the harvesting of its beet crop, thus bringing the Chinese question right home to us. And still, at the very time there was such a famine in labor, teams were delivering half loads of beets at the railway to send to a beet factory. Two teams, two waggons, and two drivers were engaged in doing work that should have been done by one of each. Why? Because the roads were in such poor condition that half-loads were the limit of possibility. With labor becoming scarcer, with the margin between cost of production and selling price steadily becoming narrower, road improvement, as a means of lessening the cost of carrying produce from point of production to market is of growing importance.

Allied to this question of good roads is that of fuel. In Western Ontario to day you may see farmer after farmer hauling coal from the local town to provide warmth in the farm home.

Connecting these two questions of good roads (or transportation) and fuel is the still greater question involved in the possibilities of electrical power development from water. The Niagara River is said to be capable of producing power equal to that of all the steam engines of the world; the St. Lawrence Rapids furnish power which turned into heat, would provide warmth equal to that given out by all the coal annually imported into Canada. All over the country similar waterfalls or rapids are to be found. These, if harnessed and transformed into electrical energy, would supply power for light and for electric railways on all the leading highways of Ontario, and thus furnish a cheap and efficient means of carrying farm produce to market. They could do more than this; they could furnish heat, light, and power for every farmhouse in the Province. How important it is, then, to see that these water powers and electric railway franchises do not pass wholly from public control and so become means for private or corporate enrichment when they should be the means of great public benefit.

There is no occasion for reflecting on those who created our educational system. That system has probably well served its purpose. But conditions change, and we must change with them. A system that may have served very well a few years ago is wholly unsuited to present needs. This fact is being recognized, and inside of a few years our whole system of education will be recast, particularly as regards rural schools.

Incidental to this subject, Mr. James touched on an allied topic. In the United States, following the lead of Germany, great colleges have been endowed for the purpose of conducting original research. There is no branch in which there is so much room for original research, in which there are so many problems to solve as in agriculture. We are doing something in this direction, but in a very small way. We have men who give part of their time to research, but this time is spent by men whose principal duty is that of teaching, and who spend in teaching more time than the average mechanic spends in manual labor. We cannot expect the best results from that system. We ought to have men whose whole work would consist in agricultural research—men to whom we could say, There is a problem; work it out, no matter whether the working occupies a day, a year or a lifetime.

The need of the hour is education, improvement in product, lessening the cost of production, and the development of the cheapest and most efficient system of transportation.

ILLUSTRATED LECTURE ON NEW ZEALAND.

An interesting talk about New Zealand, illustrated by some excellent stereopticon views, was delivered by Mr. J. A. Ruddick, who for several years acted as Dairy Commissioner of that colony. The lecture was of a most instructive nature.

REPORT OF INSTRUCTOR HOWEY.

I take pleasure in presenting to you my eighth annual report as instructor at cheese factories for the Dairymen's Association of Eastern Ontaro.

The district assigned me was as in former years part of East, West, and North Hastings, Prince Edward, and part of Northumberland Counties. This is called the Belleville section, and is, I believe, one of the oldest dairy sections in Canada. The first cheese factory in it was built in 1867, and the first cheese board inaugurated in 1882.

I commenced my duties on the 3rd of May and ended Dec. 15th. I received applications from 66 factories for instruction and inspection, and have classed them as follows :

10 as first-class, 17 as second-class, 32 as third-class, and 7 as totally unfit for the manufacture of first-class cheese.

Regarding the cheesemakers, I can assure you we have a large number of first-class men in my section, but why we have some of those careless, indifferent fellows, who go about their work dressed in an untidy manner, is a mystery to me, and they are sometimes bold enough to refuse milk not in proper condition for the manufacture of first-class cheese. But I believe their time is limited.

Only one of the factories that I visit pays by quality, and you will all agree with me that this is the right and proper way. Regarding the disposal of whey 57 of the factories visited return the whey home in the milk cans; the balance is fed at the factories.

The water supply for three of these factories for washing utensils was very impure, caused by bad floors and improper drainage. In all cases where I found defects, such as bad water, poor whey tanks, and bad drainage, I called upon the directors and in every case but one they were set right.

This was a factory owned by a private individual. I called on the owner, and he stated that had not the time to remedy matters this year, but would see that everything was in good running order another year. After our conversation I called on the cheesemaker, and he stated that he would notify the manufacturer in writing that he would not under these conditions be responsible for the quality of the cheese. This I believe brought the remedy.

The improper washing of milk cans gave me more trouble this year than all of the deteriorated milk that I found. There are a number of patrons who are very careless and indifferent in this matter.

The quality of the milk and cheese was far superior the past season than any previous year. No doubt the favorable season had a great deal to do with it.

I examined with the lactometer all milk delivered, and all suspicious samples with the Babcock test and found fifteen patrons who were deteriorating their milk. Eleven of these paid damages to the factory to the amount of $252, the remainder settled with the officers of the factories. The amount

contributed for my service from factorymen is $403, making a total to the association of $529.

In conclusion, I am grateful to all those who have assisted me in the work, but before concluding my report I strongly advise all cheesemakers to take a course at the Dairy School, also join the Dairy Association, attend all conventions, and profit by whatever suggestions may be offered.

HUGH HOWEY.

REPORT OF INSTRUCTOR BENSLEY.

I have the honor of submitting my tenth annual report as Instructor for the Eastern Ontario Dairymen's Association.

I commenced work May 7th and finished May 1st. Number of factories visited officially was 78. In the factories which I visited about 5,000 samples of milk passed through my hands, of which twelve were found to be deteriorated, about the same number as last year.

The amount of money collected is as follows :—From the Boards $382, from fines $180, half of which goes to the Association, making a total of $472.

The general condition of the factories might be classed as follows : thirty first class, twenty-five second class, eighteen third class, and the remaining five, were utterly unfit to make cheese in. The principal defects found in the factories were poorly constructed buildings, old worn out equipments, bad floors, bad water, filthy sunken whey tanks, bad drainage, which must necessarily cause filthy surroundings.

The cheese in my section, I am pleased to say, were greatly improved from last year owing largely to Providence in sending favorable weather for keeping milk, which goes to show very plainly that cheesemakers to-day, generally speaking can make good cheese if they get the raw material in anything like proper condition. But I want to tell you that this getting the patron to strain and take proper care of the milk in a number of cases is quite an elephant. While there are a great many who do all in their power to improve matters, there are still quite a number who are careless and indifferent. They will make very good promises, and many of them carry them out for a short time, but gradually drift back into the old rut again.

And now a word to the makers. While I found the majority of them doing good work, I found a few who are a disgrace to the business, as they kept themselves and factory in a beastly condition. I am sorry to have to say it, but I had to report two of them, and they were discharged, which should be the fate of all such makers, for the quicker they are put out of business the better. It was among this class most of the defective cheese was found.

I would advise makers to set their patrons a good example by keeping themselves and factory tidy and clean, and unless they do this I consider they have no right whatever to complain of the patron.

In summing up the whole business I would say that it is co-operation that is needed from the patron to the buyer. Each should do their part well, and by so doing there is not the slightest doubt there would be a great improvement in the quality of our cheese.

G. H. BENSLEY.

REPORT OF INSTRUCTOR CARSON.

I have the honor to submit herewith my first annual report on the work done as instructor for the Eastern Dairymen's Association and the Cornwall Cheese Board.

Owing to the fact that my appointment was made late during the year, and not being much acquainted with the locality, some little time was lost before much actual work was done. As you are aware I received my appointment from this Association, but was placed directly under the control of the Board.

The district allotted to me comprised the thirty-five factories boarding and selling their cheese on the Cornwall Board, nearly all of which are situated within the four townships, namely: Cornwall and Roxborough, in Stormont County, and Charlottenburg and Lochiel, in Glengarry County.

I began work on June 8th, and ended on Nov. 1st, and spent 111 days driving to and visiting those factories, some of them receiving as high as seven or eight visits, while others received only two or three, thus giving the greater part of time to those factories needing my assistance most.

Up till the middle of September all my time was spent with the makers and patrons, but during the last month and a half a number of factories made application to have the milk tested, which was granted. Consequently only a part of the time could be given to the makers during this period. In all, 1,094 samples of milk were tested with the lactometer and Babcock test, fifteen of which were found adulterated. In every case, except one, a settlement was made ranging from $10 to $25 each, $225 being collected in all, one-half of which was returned to the factories and the other half deposited to the credit of the Cornwall Board.

Of the thirty-five factories, only eight have adopted the system of paying for milk according to the percentage of fat, the other twenty-seven still cling to the old "pooling" system. There are three chief advantages in favor of the former system, namely: A better quality of milk is supplied by the patron; second, the percentage of fat increases from year to year, as the patrons have learned that this can be accomplished by a close attention to details; third, it prevents fraud. It is to be hoped that a greater number of the factories will adopt this system in the near future.

The condition of the buildings, in many respects, is very poor indeed, the chief faults being defective curing-rooms, leaking vats and poor floors. I have classed the factories according to the condition of the buildings as follows: Three as first class, fifteen as second class, sixteen as third class, and one as entirely unfit in which to manufacture cheese. The manner in which buildings are kept as regards cleanliness, etc., is as follows: Ten are kept very clean and tidy, twenty-four in average condition, and one extremely filthy.

Only ten of the factories which I visited had pure water, the other twenty-five were impure and foul smelling, and in some cases entirely unfit for use. In many cases the makers would persist in setting their vats with this impure water, which is a serious mistake, since so much importance is attached to the flavor of cheese.

After the harvest season a number of meetings were held among the patrons. Some of these were held in the factories and in other cases in the schoolhouse of the locality. In nearly every instance I had a good attendance. The work taken up at these meetings was a general talk on such points as selection, breeding and feeding of dairy cows, care of milk, management of factories, and special attention was given to advantages of having proper curing-rooms. I found much good came of those meetings. In one case where the building was in poor condition I held the fourth meeting before I could persuade the patrons to take any steps to remedy matters, but on holding the fourth meeting the contract was let for repairs on the building amounting to $500. In several other cases the factory closed early in the fall in order that the building might be remodelled before another season's

work opened. Unfortunately, I met with some opposition in this work, especially where the factory was controlled by private enterprise, the owner entertaining the fact that something might be said at those meetings to cause some of the patrons to patronize the neighboring factory—a better building. In the majority of these cases a promise was made to remedy matters before another season.

The most common faults of the cheese in this district were : Mealy and acidy, weak in body and open, and poorly finished. The causes for these were in the first case the use of too much starter, rendering it necessary to draw the whey before the curd was sufficiently firm. Cheese made in this way are sure to break down mealy. In the second case the trouble was due to drawing the whey before sufficient acid had developed. Such cheese when placed in a curing-room where the temperature cannot be controlled are sure to open. The third case was due to carlessness on the part of some of the makers. There are a number of makers employed in this district having only one season or half a season's previous experience. These men are hired for from $25 to $30 per month, the employer agreeing to stand all losses. Where the makers were employed in this way I had much difficulty in getting them to finish their cheese properly and keep their factories in proper condition. In fact, in one case matters grew so bad that I was forced to call a meeting of the patrons and report to them. The result was the maker was discharged and a better one put in his place. On the other hand there are some excellent makers in the district.

There are some who still persist in shipping cheese while too green. More especially is this true where the curing-rooms are bad. In one of our best factories the cheese were shipped to the hoops. We got this stopped, however, about the middle of the sason.

Only seven of the makers have ever taken a dairy course although some of them have been making cheese for twenty-five years. Many of the older makers are bound to cling to the old system of cheesemaking adopted years and years ago. I find that the makers who have taken a dairy course are easier taught, more anxious to learn, and are making more rapid advancement than those who have never taken a dairy course.

When we consider the advantages which the Government has placed at our disposal by the number of Dairy Schools established throughout the Province, it is surprising that more makers have not availed themselves of the opportunity afforded by attending. It is absolutely necessary that they should attend during the winter. The expense is trifling, but the makers have the benefit of the latest thought in the dairy business, and come home better equipped for the coming season's work. Again, by the makers being better qualified for their work, and also to do the milk testing in the factory, they can relieve the instructor of a good deal of time thus spent, which time could be much more profitably spent among the patrons.

In about ninety per cent. of the cases where an assistant is employed I find that he is a man with only a very limited education. There are perhaps, two chief causes for this, namely : The scarcity of labor during the past few years, and owing to the fact that the salary of the makers has been cut down too low. Thus, we see a number of our best makers leaving the business each year, to be replaced by only an inferior man. Cheesemaking is no longer a child's work; it is one of the fine arts, and in order that a success be made of it, education and brains are required just the same as in any other line of work. Therefore, something should be done to raise the standard of education among our makers. This could be done by compelling them to hold a certificate from some of our Dairy Schools, or pass some prescribed examination before being allowed to take charge of a factory.

In this district there is room for a lot of hard work for an instructor, but in order that the most effective work be done, he should be placed independent of the Board. He should be given full charge of the district, allowed to lay out his own route and work, and spend his time where he can accomplish the most good. All the defects in this district which I have pointed out are curable, and it lies with the farmer to make them better. Then he is the man we must reach. He is the man who is contributing to this work and should, therefore, receive the direct benefit.

The farmers in this district are among the best to be found anywhere. They are anxious to learn, and are taking a deep interest in this line of work. In some sections they are seriously handicapped owing to bad roads.

All of which is respectfully submitted,

W. J. Carson.

REPORT OF INSTRUCTOR PURVIS.

I herewith submit the report of work done by me during the past season as one of your instructors.

My work being along the same lines as in former years I have nothing especially new to report.

I began work on the 15th of April, but was not kept busy until after the 5th of May, from which time I was busy until the 8th of November, and during which time I spent in your employ 163 days, of which 147 were spent in factories giving instructions and testing milk, eleven days were spent on the roads between factories, and five days were lost on account of rains. I visited as instructor eighty-eight different factories, some of them as many as four times. In nearly every case I took charge of the vat and made the cheese, and always helped the maker whenever I could.

The amount of money contributed by the factorymen for my services was $645. I received from settlements $73, making a total of $718.

There is a strong feeling in my district in favor of forming combinations or syndicates of from twenty to forty factories, employing each an instructor so that they can have monthly visits or oftener if required. My territory is so large that it is impossible for me to go to the factories just when called, and, although I lay out my work routes to the best advantage, it entails a lot of driving to cover the whole district, and often when I am most needed at one part of my district I am working in some distant part perhaps sixty miles away.

I trust that the time will soon come when there will be an instructor for each twenty factories.

A. P. Purvis.

REPORT OF INSTRUCTOR WARD.

I have the honor of presenting my fifth annual report as instructor and inspector of your Association.

I commenced work on May 19th, and finished on Nov. 8th, making 150 days spent in employ of Association. I visited fifty factories. Of these forty, or only those that sell their cheese on Peterboro' Cheese Board, were under my control. I paid those forty factories 249 visits. I received from factories, $400; from fines, $88.30; total $488.30.

During the past season I have spent more time than ever before, upon examination of cans and milk as delivered at factory, and in trying to reach

the producer of the milk. The result has been, I am pleased to state, a very marked improvement in most of the factories; but a wonderful improvement has been made where maker and management have co-operated with my efforts to reach the patron. I would like to lay particular stress on the necessity of this co-operation, as I have had the pleasure of seeing the good results of same.

The past season has been a good one for both producer and maker. Prices were good and the weather was favorable for a large supply of cool sweet milk. It was also very favorable for the manufacture of it into cheese and for the curing of same.

On whole, cheese have been very fine in my section the past season.

R. W. WARD.

REPORT OF INSTRUCTOR RABB.

I have the honor to hand you my annual report. While, as you know, this is my third annual report to this Association, it is my first one as Inspector and Instructor in cheesemaking.

During the season, I visited about sixty factories, and, together with the regular maker, went through all the details of the work, beginning with the in-taking of the milk and usually stopping with the putting of the curd into the press. A good many urgent calls were left unanswered because of my being preoccupied as Inspector in testing or prosecuting, while a goodly number of factories, naturally coming in my course, never asked for assistance.

More than three-fourths of the factories visited were turning out fine cheese, and were in good condition generally. This fact is largely due, I believe, to the Dairy Schools operating upon the makers, and to the cool season being so favorable to the curing. Notwithstanding the multitude of modern conveniences in cheesemaking, and the abundant provision made to educate both the maker and the proprietors of factories, I found some very poor factories, very poor makers, and very poor cheese, but I am pleased to say that the proportion of really good factories is getting higher as the old tumble-down ones of years ago give way to better ones, and also competent makers are greatly increasing; but the bad milk on the one hand, and the squeezing the price for manufacturing on the other, are still acting against the best interests of dairying. Compelling a maker to use ill-flavored milk, and to have his salary lowered each year, must, of necessity, force out of the business the very best makers, such men as will be competent to make and cure an article fit to be put upon the most exacting market.

My experience in this work, although short, and my observations upon it lead me to say: (1) State definitely what district is to be under the charge of an instructor, and then let him work every factory, not the select only, in that district. In this way he can lay his plans from the beginning, and thus accomplish much more than when he goes only when called, as all too frequently these calls come in bunches, and sometimes never come at all from factories whose out-put is not beyond criticism.

(2) Do not hamper an instructor by asking him to be an inspector, and consequently a prosecutor, especially in the same district. The instructor must have full and perfect freedom about a factory, and always be a co-worker with the regular maker, and a welcome guest of the maker, the patrons and the proprietor at any time. The inspector is armed with the law, and brings with him more or less terror, and perhaps would not be able to force an acceptance of some of his best methods of manufacturing and car-

ing for either milk or cheese. We all must admit that ill-flavored milk is one of the greatest enemies, and it seems that there is no way, thus far at any rate, to correct those careless—and shall I say, malicious, producers—but by the slow, and it seems to me, worn-out way of moral suasion. If we must continue to teach and caution and threaten only these patrons who are actually doing a greater amount of injustice to the business than the man who either skims or waters, I believe the instructor who actually takes in the milk, handles the vat, and watches the curing, is far more effective than the inspector.

A. B. Rabb.

REPORT OF INSPECTOR LAWSON.

I have the honor of presenting my first season's report as Instructor for this Association.

The factories under my charge were twenty-six in number boarding and selling their cheese on the Ottawa Board.

I commenced work on June the 12th, and finished on Nov. 1st. Owing to the fact that of all these factories made application for testing from two to three times, I was unable to spend as much time with the makers as I would like to have done. Out of 1,954 samples of milk tested, I found twenty cases of fraud, which were all settled by the parties paying fines ranging from $5 to $15, amounting in all to $140. The total amount collected from the factories towards my salary was $345.

I found the makers in most cases ready and willing to receive instruction, and on the whole they were doing fairly good work. But after all that has been said about cleanliness, and the necessity for it in the manufacture of cheese, there are still a few who seem to pay very little attention to keeping their factories and utensils in a clean condition. This should not be, for invariably when a maker is carless in this respect the quality of his cheese is generally below the average. The principal defects found in the factories was poorly constructed buildings, bad floors, leaky vats, and bad drainage. In fact, the drainage at a couple of these factories was so bad as to completely ruin the water supply, and new wells had to be dug. I might mention here that in a number of cases the managers have expressed their intention of improving their factories and getting things in better shape for next season. These improvements are necessary, for unless we have better equipped factories, more skilled makers, and a better and uniform quality of milk we cannot expect to make much further improvement in the quality of our cheese.

S. G. Lawson.

REPORT OF INSTRUCTOR J. B. LOWERY.

I have the honor of presenting my sixth annual report as Instructor for this Association. The district assigned to me was Campbellford, Stirling, and Madoc sections. Previous to this past season I had also Lindsay and Brighton sections. After the Dairy Conference which I attended in this city last April, I explained to these three Cheese Boards the object of that meeting, which was to try to have a better system of instruction, and to have more uniformity in our cheese. In order to do this we had to have more money. The representative of each factory belonging to these three boards agreed to pay $2 more than he had previously paid, if I would confine my work to the three boards. I had then 62 factories to look after, which is too many for any one man to give proper attention to.

We do not have as much trouble with tampered milk now as we did a few years ago, for in this section I now find very few cases. The first season I covered this ground I found 66 cases of tampered milk, while this last season I found only 9. Offenders were fined from $10 to $25 each, making a total of $170. The amount of money contributed by factorymen for my services was $434, which with half of the above fines makes a total to the Association of $519.

I commenced work on the 5th day of May and finished on the 14th of November. In all I worked 164 days for the Association, giving instructions to cheesemakers and also the patrons, whom I found were most in need of instruction. At one factory when I visited it the first time this season I had to call on nearly every patron on account of the filthy condition of their milk cans. This is a very delicate subject to approach a man on, for some men get very indignant when told their milk cans are not properly cleaned. In this case the President of the factory went with me, and it made it more pleasant for me to approach them, when he would tell them he was in the same boat himself. I must say on my next visit I found a marked improvement. In some cases I did not have time to visit them, so I wrote them a letter stating the conditions in which I found their milk cans. The cheesemakers told me that this had a very good effect. I feel satisfied it is better in every case to visit the farmyard myself and see the way they handle the milk and the surroundings where the milk is kept; for where I find these bad flavors I can invariably locate the cause without much trouble. The trouble I find is generally careless milking, milking in dirty stables, then keeping this milk standing over night in an impure atmosphere, either in an old milk waggon, standing pretty close to the hog pen or on a milk stand very close to the cow stable door. It is a well-known fact to all dairymen that milk handled as I have mentioned cannot have a good flavor. On the other hand, I must state that at some of the factories the majority of the milk was delivered in first-class condition, although in nearly every factory we find a few careless patrons.

With the exception of five or six, I think we have as good a staff of cheesemakers as can be found in any section. The majority of those who are already engaged for next season are receiving an increase in salary. If they had not received this increase in salary a great many of our best makers would have quit the business and would have sought other employment, for wood is getting very scarce in this section and coal is entirely out of the question. Cheese boxes and other furnishings have advanced so in price that cheesemakers could not afford to make at the price they were getting. In Madoc and Stirling sections nearly all the factories are run on the co-operative plan, while in Campbellford section they are nearly all private factories. When the proprietors of these private factories start out to canvass for milk, they get overly anxious and encroach on their neighboring factory; and very often two milk waggons can be seen covering the same ground, one going to one factory and the other to another. This makes it very unprofitable for the proprietors and also quite unpleasant for the cheesemakers. If he returns a can of milk that is sour or of bad flavor it goes to the other factory the next morning, for most of the private factories are run on the grab-game system. In one private factory this season I rejected a can of milk, but the proprietor of the factory who, as in the majority of cases, is the cheesemaker, took it in. He told me afterwards if he had returned that can of milk he would have lost all the milk on that route, which he could not very well afford to do. With the co-operative plan there seems to be very little trouble along these lines.

In regard to the cheese factories, we have some which are a credit to the dairymen of this part of the country. They are situated on high ground, with good water supply and good drainage, all of which are very essential in locating a cheese factory. In the past two seasons there has been a great improvement made in a number of the old factories throughout this section, by putting in concrete floors and fitting the walls of the curing rooms in order to control the temperature during the hot weather. But I am sorry to state that there is a large number which are still in need of improvement, in both buildings and equipment.

J. B. LOWERY.

Mr. Howard Bissell: I would like Inspector Lowery to please tell us what he meant by the phrase "grab-game" that was in his report.

Mr. Lowery: I thought I explained pretty thoroughly why I referred to it as the grab-game system. In the first place, in the part of the country that I cover as instructor and inspector there are a certain number of private factories, and many of them are very small, and the proprietors are the manufacturers in most cases. They agree to haul the milk and manufacture it into cheese for so much. They are offering bonuses, and trying to get patrons away from each other, and are firing at one another all the time.

The President: The reason Mr. Bissell asked that question is because there is nothing of that kind going on in the Brockville section. (Laughter.)

Mr. John McCordick: If we as farmers take care of our milk, and send it to the factory in first-class condition, will the leaky whey tank, smelling like a cesspool, and a hog-pen within 20 feet of the factory—will these have any effect upon the quality of the cheese?

The President: The patrons own the job. If you call a meeting you may cut that right off. Tell that man that if he does not improve his premises that you will quit.

Mr. McCordick: The factory may be all clean and right inside, but the outside arrangements may be bad.

REPORT OF INSTRUCTOR ZUFELT.

I have the honor of presenting to you my sixth annual report as Instructor for the Eastern Ontario Dairymen's Association.

I am pleased to report a very marked improvement in the quality of the cheese produced this past season. This, no doubt, is partly due to the efforts put forth to keep our reputation untarnished by a repetition of the complaints of the previous year. But the chief cause of this improvement has been the exceptionally favorable season. Owing to the cool weather which prevailed during midsummer, the farmers were enabled to deliver their milk at the factories in much better shape than formerly, and the cheese were cured under much more favorable climatic conditions. From this we are able to deduce two important facts, namely, that the quality of the cheese depends very largely, 1st, on the condition of the milk, and, 2nd, on the temperature of the curing room. This question of lower temperature in the preserving of milk and curing of cheese is one of vital importance and should receive the careful consideration of all interested in the welfare of the cheese industry.

Owing to the change in the instruction work, I had a much larger section to look after this year than formerly. At first I started out with the intention of devoting my entire time to a syndicate of about 20 factories, but owing to their distance apart and the pressing calls from others which wanted my services, I had to partially give it up.

Altogether I gave instruction at 30 factories, as follows : Fourteen receiving six visits each, four, three visits each, and twelve, one each, making in all a total of 108 visits.

At fifteen of these factories I addressed meetings of patrons in the evening on subjects relating to the care of milk and the improvement of the factories. The question of syndicating the factories was also introduced, and the patrons almost unanimously expressed their approval of the idea and their willingness to co-operate with the Association in bringing it about.

In addition to the work among the factories, I also acted as judge on dairy products at several of the country fairs.

In conclusion, I wish to emphasize a few points which have presented themselves very forcibly this season, and the adoption of which are necessary to bring about a permanent improvement in the quality of our cheese :

1st. That better sanitary conditions must prevail at our factories.

2nd. That our curing-rooms must be so constructed as to be capable of being maintained at a uniform temperature of about 60 degrees.

3rd. That it is necessary to cool milk by means of either ice or water down to a temperature of 50 or 60 degrees Fahrenheit during warm weather.

4th. That the system of instruction should be reorganized so as to bring all the factories under supervision, thus producing more uniform results.

L. A. ZUFELT.

A Member : Would you use a ground vat ?

The President : Don't have one on any consideration.

Mr. Publow : It is all right if you can drain it. But if you cannot drain it do not have one. It is only fit to use when properly drained.

Mr. Howard Bissell : Don't you think it as well, if you have fall enough, to have the lower tank on the ground ? That is better than having a tank underground. You must have a place to eject the whey. I have been greatly interested in Mr. Publow's address to-day. He has done more good in our section this year than has been done in any previous year. There have been grand results from his labors all through the Brockville section. Mr. Publow visited my own factory—the Willow factory—and although that factory has always had a good reputation, Mr. Publow has so benefited us that our men can make a finer article than ever before. I am delighted with your choice of a chief inspector, for I believe that Mr. Publow is the best man that could be chosen for the position. I have been an inspector myself, and can speak from experience as a maker, an inspector and a dealer generally. We want to have syndicates of 25 or 30 factories, with one man to control them all. An inspector or instructor cannot visit 80 or 100 factories and do justice to them. I believe this Convention may be classed as a great success.

ELECTION OF OFFICERS.

The report of the Nominating Committee was read, and upon motion of John R. Dargavel, seconded by James Whitton, it was adopted.

BUTTERMAKING.

By J. W. Hart, Superintendent of Kingston Dairy School.

The subject assigned to me by your President is such a comprehensive one that I may well be excused if I do not attempt to cover all the ground. In the Dairy School I find it difficult to crowd all I would like to say about

"Buttermaking" into a three weeks' course, and you will, I am sure, pardon me if I confine my remarks mainly to certain features of creamery work that impressed themselves upon me during the past summer while employed as instructor in the creameries of Eastern Ontario.

Besides three creameries in New Ontario, I visited twenty creameries in Eastern Ontario that are in operation during the summer, paying to the most of them two visits during the busy part of the season. Consider the fact that in these creameries a valuable article of food is being manufactured, that the most exacting cleanliness is necessary for the purpose of manufacturing fine flavored butter that will sell for the most money, and that the output is large in most instances, I was disappointed in finding the average creamery so badly planned and built. A great many of our creamery buildings have outlived their usefulness, and more than one is a standing disgrace and menace to our butter industry. It is practically impossible to clean a filthy, old, bacteria-infested wooden creamery; and, if those responsible for its condition are not willing to shut it up, the law should compel it to close. The days for erecting wooden creamery buildings are already numbered, and let us hope that the last one has been built in Ontario, and that we are to have a new type of building, durable, non-conducting, sanitary, well ventilated, damp and vermin proof, qualities altogether lacking in most of the buildings heretofore erected for creameries. Where stone and brick are scarce cement concrete may be used for the walls. We are only beginning to appreciate the value of cement in our creamery buildings. It is absurd to claim that cement costs too much when so many of our intelligent and progressive dairy farmers are using it for silos, cow-byres and even hog-pens. Considering its durability and the ease with which cement surfaces may be kept clean, there is no building material that can compare with cement for creamery construction. Cement floors and guttters should be insisted upon. Wooden walls and ceilings in a good state of preservation may be furred with ordinary laths, 12-inch centres, to which expanded metal lathing should be stapled. Upon this cement mortar is to be plastered, the finished surface of which presents a smooth, hard, durable finish which may easily be kept clean. The superiority of such construction for weighing platforms, around sinks and guttters and all places that have to be frequently scrubbed is beyond question, and the ease and cheapness with which it may be applied also favor its extended use as its merits become known.

In fully one-half of the creamery plants inspected I found defective drainage and bad ventilation, conditions that were also alike injurious to the health of those employed in them and to the quality of the manufactured product. It is unfortunate that so many creameries have been located on sites where drainage is difficult to provide for. A properly constructed drain should lead from the lowest point of an open gutter and near the outside wall of the building. It should be provided with a four-inch cast-iron "S" trap with hand hole. Beyond this and outside the wall should be a vent-pipe running up as high as the eaves, and the drain is not complete unless provided with a fresh air inlet pipe. Outsde the wall the drain should be of six-inch vitrified sewer pipe, with the joints well cemented. It should discharge at such distance from the building that no odours from it could at any time be detected near the building. In a good many creameries the only way of ventilating is by means of the doors and windows. Ventilators should be provided, and the best way to insure their working properly is to connect them with the chimney. Heating a creamery can be most economically done by means of steam pipes. All other steam pipes should be covered with some good non-conducting material.

An abundant supply of pure water is necessary, and every creamery should be so located as to command it.

Except in three creameries where refrigerating machines had been installed, I saw no cold storages in fit condition for the keeping of butter. The temperature usually ranged high in the 50's, while the air was saturated with moisture which dripped freely from mouldy walls and ceilings. I know that refrigerating chambers using natural ice can be built to maintain the temperature as low as 36 degrees in midsummer, and this without any handling of ice being necessary.

Most of the cold storages seen had been well insulated when built, but the walls had become so soaked with moisture as to impair their efficiency to such an extent that a low temperature could not be secured.

You may be surprised to know that the most of the butter made in Eastern Ontario creameries goes to supply our own home markets, and that at some seasons none of our butter is being exported. As regards price, the home market is usually our best market, a market, too, that will call for increasing supplies. At the same time, at certain seasons we have surplus butter that is exported, but the spasmodic and irregular manner in which shipments are sent forward is not conducive to establishing confidence in brands and securing regular customers. Eastern Ontario should, and no doubt will in the near future, have larger supplies of choice butter for export, and this without diminishing the amount of milk that is being sent to the cheese factories. The refrigerating car and steamship service inaugurated by the Dominion Department of Agriculture has been of immense service in developing our butter export trade, and we should more fully avail ourselves of the opportunity to send forward our butter regularly and frequently all the year round.

Buttermaking from the standpoint of the creameryman calls for the treatment of my subject along the line of everyday creamery work, and this phase of the subject will claim the balance of my time.

As manufacturers, the questions we must ever keep before us are: 1st, how to improve the quality of our goods so as to command higher and more remunerative prices, and, 2nd, how to reduce the cost of production.

With regard to the first question, do we fully realize our position in regard to the quality of our butter? Do we know that while our butter has improved vastly during recent years, it still ranks far below that of our great competitors in the British markets, notably that of Denmark? Danish butter sells for about 3 1-2 cents per pound above the prices obtained for average Canadian creamery butter. Danish butter is of such uniformly high quality that the range of price is usually about 2 shillings, while our creamery butter graded "fine" and "choice" differs in price 10 or 12 shillings. In this our banner year we have exported 564,913 packages of butter, and had it sold for the same price as Danish butter it would have brought us more than $1,100,000 over and above what we actually received.

Improvement in the quality of the milk or cream brought to the creamery will materially aid in improving the quality of our output. Anything that might impart a bad flavor to the butter should be rejected. One large creamery I visited this summer collected the cream only twice a week. The buttermaker who could make good butter out of the cream as I saw it delivered at this creamery could work miracles. In our best creameries the introduction of pasteurization would, I am certain, lead to a greater improvement in quality. In Denmark and in New Zealand, which country is closely pressing Denmark for the best reputation for quality of butter, pasteurization is all but universally practised. Our neighbors, I will not say our competitors, to the south of us,—because very little butter is now being shipped from

United States ports, and butter usually commands higher prices in New York than in London—are adopting pasteurization largely, and contracts with the Government for butter for the army specify that pasteurization shall have been employed. The best flavored butter that I saw regularly the past summer was in a creamery where pasteurization was being practised.

Now, what difficulties stand in the way of the adoption of pasteurization in Canadian creameries ? In the first place, patrons generally are not alive to the importance of this reform, and the manufacturer is not so vitally interested as he is receiving a certain stated price per pound for manufacturing, at least this is the arrangement in a large proportion of Ontario creameries. Then it is feared that the adoption of pasteurization would lead to increased expense both in regard to the items of labor and fuel, an objection that is urged against many needed improvements in our creameries, many of which would actually reduce the cost of manufacturing. In most creameries the preventable waste of fuel would furnish heat enough to pasteurize all the milk received. Along with pasteurization we must have rapid cooling of the cream, and most creameries have no adequate water supply for this purpose. Finally, pasteurization calls for expert knowledge on the part of our creamery men both as regards the operation itself and the subsequent ripening of the cream by specially prepared ferments.

Milk should not be heated in the receiving vat. In passing milk directly through the separator after the temperature has been raised in a small heater, the full benefit of the heating is not secured, as the fat globules have not had time to expand during the momentary application of heat. It is better to run the milk from the heater into a supply can elevated above the separator from which the separator is fed. This is desirable also in using a continuous pasteurizer, as the prolonged heating is more destructive to germ live. A number of our creameries are now receiving both milk and cream. In such cases the milk and cream could be mixed and separated, the machine being adjusted according to the richness of the material to be passed through. By this plan no sour cream could be handled. As the milk is handled at present these creameries are a little better off than the cream-gathering creameries as regards the quality of their supply, as the worst cream accepted furnishes the largest proportion of germ life and its products in forms injurious to the quality of the butter.

In separating it must be remembered that the higher the temperature the cleaner the skimming. This holds good in all separators, at all seasons, and in all conditions of the milk, except where the milk is so nearly sour as to curdle on heating. An experiment made a few days ago by students in the Dairy School gave the following results : At a temperature of 70 degrees, .15 of one per cent of fat was found in the skim milk ; at 80 degrees the percentage of fat was reduced to .10 ; at 110 degrees, .08 ; at 130 degrees, .03 ; at 150 degrees, .02, and at 160 degrees, .01 ; the above being Ohllson bottle and readings, and not actual fat percentages. During the time the temperature was being raised no change was made in the adjustment of the feed, but it was found that while the separator was skimming 2,430 pounds per hour at 70 degrees, at 160 degrees it was being fed at the rate of 2,520 pounds per hour, owing to the increased fluidity of the milk at the higher temperature. Excessive losses of fat in the skim milk in winter can usually be remedied by cutting down the feed. Separators should be adjusted to skim rich cream, say 35 to 40 per cent. fat. Having rich cream saves labor in handling and cooling. It may be churned at low temperatures, less fat is lost in the buttermilk and the butter is of better texture. In winter, if raw cream is being handled, the cream should be run as heavy

as possible, and it should be diluted by adding directly to it enough of the best milk received to reduce it to the required richness.

The patrons should not have to wait an unreasonably long time for their skim milk, as they so often have to do on account of the small capacity of the separators. The skimmilk tank should be elevated and cleaned daily. It is small wonder that so many patrons of creameries prefer to separate their milk at home where they can have the skimmilk fresh and sweet rather than haul home the filthy stuff that is run in their cans from the skimmilk tank of the creamery.

If a simple and reliable skimmilk weigher were placed on the market it would meet with a ready sale. In order not to keep the patrons waiting for their skimmilk, arrangements might be made with some of the near-by patrons to deliver their milk early and return later in the day for their skimmilk ; allowing all in this way to have sweet, fresh skimmilk without delay.

From the separator the cream is usually run directly into the cream vat. Less than 10 per cent. of our creameries are equipped with proper cream coolers over which to run the cream after separation. A starter should be added as soon as the cream has been cooled to the temperature at which it is desired to ripen it, varying from 60 to 65 degrees. Heavy starters are advisable, usually from 10 to 20 per cent. depending on the acidity of the starter and the percentage of fat in the cream, the length of time before churning and the facilities for cooling the cream. All cream vats should have ample ice spaces at the sides.

The proper ripening of the cream is an important matter. In cream-gathering creameries it is difficult for the buttermarker to control the cream ripening, as it is often too ripe when it reaches his hands.

The best starter can be propagated from pasteurized skimmilk. Commercial starters containing a flavor-producing organism in addition to a lactic acid germ impart finer flavor to the butter, especially during the winter, than a pure lactic acid starter; but must be frequently renewed, as the lactic acid organism soon obtains the ascendancy over the flavor-producing species, and the starter becomes practically a pure culture of latic acid.

A good outfit for preparing starters may be made by taking a new 20-gallon milk can and a tub made by sawing off the top of a cask so as to leave it a couple of inches lower than the top of the can placed inside it. The tub should be connected with cold water and steam. A second can should be provided, and with a small block and tackle the cans may be more conveniently handled. Some selected milk should be run through the separator first every morning and used for the starter. Care should be taken to thoroughly pasteurize and cool the skimmilk before adding the ferment, and the most exacting cleanliness should be observed in all stages of the process.

If the temperature of the cream can be controlled, it is better to ripen it rapidly. Sufficient acid to thicken the cream should be developed in about 6 hours. The acid at this stage will be equal to .30 or .35 per cent. The cream should then be quickly cooled to churning temperature. The acidity will continue to develop slowly, and the temperature should be regulated so as to have from .45 to .50 per cent. acid for churning. Thin cream requires higher acidity. The ripening of the cream should be uniform from day to day. Ripening breaks up the viscosity of the milk serum, so that more exhaustive churning is secured and an agreeable flavor is imparted to the butter during the ripening process. In consequence of ripening the granules of butter are more readily freed from adhering milk, and the ripened cream butter has better keeping qualities than the butter made from sweet cream.

There is another method of destroying the viscosity of the milk serum in the cream, and that is by high temperature, which accounts for the fact that sweet pasteurized cream may be readily and exhaustively churned, but the butter has somewhat of a flat, insipid flavor. Cream should be ripe enough to churn at a temperature between 46 degrees and 52 degrees in three-quarters of an hour.

The churns should always be scalded and cooled with water before having the cream run into them. This treatment fills the pores of the wood with water, which prevents the cream sticking and the churn becoming foul through absorbing any portion of the cream. A rectangular churn should not be filled over 3-5's full,and it is better not to fill a combined churn over 1-2 full.

Before commencing to churn if color is used it should be added to suit the market the butter is intended for. With a graduated burette the color may be more accurately measured than by means of the ordinary 8-oz. measure. The gas should be allowed to escape once or twice soon after starting the churn. The churn should be run at whatever number of revolutions will give the greatest amount of concussion. If the cream sticks to the inside of the churn a little water should be added at the same temperature as the cream. Towards the end of churning the speed should be carefully maintained ; but as more power is required at this time the belts often slip and the speed of the churn is slackened, in consequence of which the granules of butter are ragged and uneven in size. By means of rapid motion the butter granules are close, compact, spherical, and even in size. The butter granules should reach the size of No. 6 shot, although the size of the granules is not of such importance as their character as above noted. The surface of the butter should be lightly rinsed with cold water, and the buttermilk should be drawn off immediately. Water should be added a little in excess of the quantity of buttermilk. The temperature of this water should be a little lower than the churning temperature. After the water has been added to the churn should be given about a dozen revolutions, after which the water should be drawn off ; if the water is milky this process should be repeated. Washing should leave the butter in a sufficiently plastic condition for working without it being necessary to soak the butter.

After the wash water is drawn off the butter should be salted to suit the market and according to its moisture content. With small, irregular granules more salt must be used, and the larger and more solid appearing the butter granules the less salt required. In some combined churns as much as 10 per cent. salt will be needed, while at the other extreme there appears to be an increasing demand for saltless butter for export trade. By having the granules of butter uniform in character and allowing the same amount of drainage before adding the salt uniformity will be secured. When the yield of butter varies much from day to day, it requires considerable judgment to get the butter salted uniformly. Mottled butter comes from uneven distribution of the salt. Washing with extremely cold water hardens a part of the butter so that it will not take the salt, and is a common cause of mottles. When butter is properly worked twice and had been allowed to stand sufficiently long between workings for the salt to dissolve there is no danger of mottling.

For export trade butter should be packed in paraffine-coated boxes holding 56 pounds, lined with a good quality of parchment paper. The parchment paper should be soaked in brine containing one ounce of formalin to the gallon. The butter should be left smooth on top, and the parchment should be neatly folded over it.

For local trade rectangular pound prints wrapped in parchment paper are most popular. Where a small quantity of butter has to be printed a single pound hand printer will answer, but there are butter printers that will enable neater prints to be turned out with less labor.

The cost of manufacturing can be reduced by having the boiler and engine amply large for the work, and by having all the machinery in the highest state of efficiency. All shafting and belts should be kept properly adjusted.

The Babcock test should be in daily use for finding out the percentage of fat in the milk received and for testing both skimmilk and buttermilk.

A skilled buttermaker should be in charge of the creamery, as the hiring of a cheap man is not conducive to keeping down expenses.

In conclusion, there is no product sold from our farms that represents so much value in small bulk as butter, while at the same time in selling butter the fertility of the soil is maintained. In the case of all other farm products except sugar, valuable fertilizing ingredients are removed from the soil, and sterility follows sooner or later unless purchased feeds or manures are used.

The following table shows the fertilizing ingredients of the soil removed in selling 25 tons of milk, as compared with the sale of the cheese and butter that could have been made from this amount of milk, namely, 2 1-2 tons of cheese or 1 ton of butter. Nitrogen is calculated at 16 1-2 cents, phosphoric acid at 5 cents, and potash at 5 cents per pound.

Product.	Nitrogen, lb.	Phosphoric acid, lb	Potash, lb.	Value.
				$ c.
Twenty-five tons milk	265	95	90	52 97
Two and one-half tons cheese	196.5	30	6	24 22
One ton butter	2.4	0.8	0.8	47

In encouraging the production and exportation of butter, wise statesmanship is shown by many progressive governments in different parts of the world, notably our own Governments, both Federal and Provincial. Through this policy all lines of agricultural effort have been stimulated, while the fertility of the soil, the great source of all our wealth, is being maintained.

A. A. Wright, M.P.: What do you mean by a heavy starter? I do not understand that word "heavy."

Mr. Hart: A 10 or 20 per cent. starter is a heavy starter. If you have say 200 pounds of cream, from 20 to 40 pounds of cream put into that will bring about the desired fermentation. It is skimmilk, anyway, and there is no waste.

paper? When the parchment papers arrived at our place they were all

Mr. Wright: Can you tell any difference in the quality of parchment marked different prices, but I could not tell any difference at to quality.

The President: Take your parchment paper and draw it through a pan of warm water and then rub it like a handkerchief. If it is of good quality it will stand the rubbing to a considerable extent; but if it falls to pieces easily do not buy it, for it will be a poor quality. Use only the best paper, and you can get it at the right price.

J. G. Clarke: In Mr. Hart's paper he spoke a great deal about flavor, but I do not believe he touched to any extent upon the firmness of the butter. I would like to ask, what is the reason of so much soft creamery butter? Why does it not stand the weather like the old-fashioned dairy butter?

Mr. Hart : It is on account of the high temperature at which a good deal of the butter is made. Most of our creameries are badly equipped for cooling the cream, and the refrigerators are often refrigerators in name only. The result is that the butter gets soft and slushy.

The old-fashioned butter that was made by your mother and kept down in the cellar until December to sell, was made from cream that had been kept at a low temperature for a certain time, and had been well churned. The cream should remain in the receiving vat until it shows signs of acidity. Your mother's butter had more acidity than the butter now made; although such butter to-day would not sell within four or five cents of good creamery butter.

Mr. Ruddick : I think that the importance of the firmness of butter is sometimes over-rated. A good deal of the cream is made in deep-setting cans. Sometimes butter is made from a herd of Jersey cows, or from cows of all one breed. Under the system I have just named the cream is kept at a lower temperature longer than it is under the sparator system.

Mr. Judson : I would like to enquire regarding whey tanks. My opinion is that a wooden tank is very difficult to clean. Has anybody here had any experience with cement tanks.

Mr. Ruddick : In New Zealand they use nothing else but cement whey tanks. In that country there is no frost in the ground; but there may be difficulty here. There is no reason, however, why a cement tank might not be built above the ground, as in the case of railway water tanks. They are often built above ground. They must be smooth on the inside, so as to be easily and properly cleaned. The cement tank must be protected from the frost. It must be made from good Portland cement and good clean, sharp sand. Too much stress cannot be laid upon this question of whey tanks. The condition of those wooden whey tanks is one of the most prolific sources of injury to our cheese. We can never have proper results until the matter of whey tanks is remedied. These cement tanks may be made round or square.

Mr. Crawford : We have heard some talk of milk being sent to the factory on Sundays, and some who send the milk on Mondays, and others again on Saturdays—that is, the Saturday evening's milk. Is there any robbing of patrons if the milk is properly kept ?

Mr. Publow : No; if you keep it clean and cool. I would rather make it up on Monday morning than late on Saturday night.

Mr. Zufelt : Have a separator, and separate Saturday night's milk, and make it into butter for the patrons.

Mr. Publow : Put a Saturday night cheese by, and keep it for a month, and you will find that you have not had good results. As to vats, I would make a vat in three pieces. Make the pan of galvanized iron, and have it well seam-soldered. You should have these pieces separate, so that if the pan leaks it could be taken out, as could also your water pan. If you use galvanized iron it will last twice or three times as long as the ordinary sheet iron.

Mr. Barr : I know of a factory that has had a cement tank for several years, and the frost has not affected it yet. It is right in the ground, with a roof over it.

Mr. Whitton : This whey tank question appears to be a very vexed one. We have a factory at Campbellford, which Mr. Hart saw, a tank over the making-room, perfectly tight, and we elevate the whey with a rotary pump and a small engine. We have a cement floor. We can pump that whey up as fast as it can run from two vats. We have pipes from them, and the man who wants it can take they whey from the vat. Our whey tank is kept as clean as any other utensil.

Mr. Elliott : What is the cause of cheese turning white or getting pale during the months of July and August, for about thirty days ? You would think they are acid-cut.

Mr. Publow : They are acid-cut, but you did not think so. The curd was not cut uniformly, and there was acid. In the work of cheesemaking prevention is better than cure.

Mr. Publow : Run your whey into the tank through a three-inch gas pipe, which can be cleaned with a broom.

Mr. Potter : Do you think the taint from the whey is the cause of fruity flavor ?

Mr. Publow : Yes; I do. We have traced it pretty well to the whey. I found a factory that was making cheese with a fruity flavor, and I sent some of the starter to Dr. Connell. He said that it was a fruity flavor. We got them to change the starter, and immediately the bad flavor disappeared. When the bad gasses had been removed the fruity flavor stopped.

EXPERIENCES AS A GOVERNMENT INSTRUCTOR.

Mr. G. H. Barr, Guelph, was heartily received as a visitor from western Ontario, and gave an address upon his experience as a Government instructor in dairying. Mr. Barr gave a similar address at the meeting of the Western Dairymen, and an account of it will be found in that report.

THE WATER-CONTENT OF CANADIAN CREAMERY BUTTER.

By Frank T. Shutt, M.A., F.I.C., Chemist, Dominion Experimental Farms.

Water, a normal constituent of butter : The functions of water in butter. In bringing before the members of this Association the results that we have obtained during the past season in an investigation to learn the average moisture-content of Canadian creamery butter, I wish, primarily, to impress upon you the fact that water is a normal, legitimate constituent of butter.

Butter would not be what it is without a certain proportion of water. As an article of diet, we are generally accustomed to think of butter simply as butter-fat, that all else present is extraneous, foreign and valueless. But we know that butter-fat pure and simple would be to most—in fact, we might say to all—unpalatable and disagreeable, uninviting to the eye.

Further, butter without salt could not be held good for any length of time at ordinary temperatures. Now, salt does not dissolve in butter-fat : Mechanically mixed with water-free butter it could not act as a preservative. It is the salt in solution (brine) that preserves the butter. The keeping qualities of butter, therefore, are in a large measure dependent upon the water-content.

Body and water-content. Another point in this connection : We hazard the opinion that the proportion of water has much to do with the "body" of butter. I have no data to present as to this, but hope that we may be able in our further research into the composition of Canadian creamery butter to ascertain the degree or extent of this relationship—if, as I have conjectured, such a relationship exists.

Quality and water-content. An eminent English authority states that there is a distinct falling off in quality (using the term in its most comprehensive sense) when the water falls below 12 per cent. or rises above 15 per

cent. It is highly desirable, with our large English market—the most fastidious market we could cater for—that we should investigate this subject. Quality, including flavor, body and similar attributes are no doubt to be considered as resulting from several causes—beginning at the nature of feed the cow receives, and ending with the various details of fermentation and manufacture. But, nevertheless, the probabilities are that in controlling the moisture content we have at least one means of controlling the quality of the butter.

The Normal Water-content of Butter. As butter comes from the churn, and before working, it will contain between 16 per cent. and 22 per cent. water. After working and draining, it will, unless the conditions are what we may term abnormal, contain between 7 per cent. and 16 per cent. Well made butter of good quality: that is, of the best quality, according to the consensus of European authorities, should not contain more than 15 per cent. water, and as far as I can gather most experts favor a water content of about 13 per cent. The examination of analytical data obtained in England, Denmark, Sweden, Holland, and some other European countries, seems to indicate that the largest number of butters falling into the first class contain between 13 per cent. and 14 per cent. water, and the next larger proportion, between 12 per cent. and 13 per cent. water.

Water as an Adulterant of Butter. Water in excessive or unusual amounts is accounted an adulterant in all countries having "pure food" laws. When water is present in what we term unnecessarily large amounts—due either to fraud or lack of skill in the manufacture—it is to be so regarded. Speaking of the matter, Fleischman, in his "Book of the Dairy", says: "This method of adulteration (admixture with water) is easily effected by melting unsalted butter in hot water, and by stirring up the fat with water; or by working unsalted butter in salt water, or working salt butter with fresh water. The weight of the butter may be increased by this action to the extent of 26 per cent."

Further, water in undue proportions may be incorporated in the process of making, without any wrong intent, by churning or washing at too high a temperature. Too low a temperature at "working" may also be responsible for a high water-content, as there is then difficulty in thoroughly working the butter. However, I shall say nothing further now as to the causes for high moisture-content.

The legal limit of water-content in England. The presence on the English market of certain butters (not Canadian) containing excessive amounts of water led to the appointment of a Committee by the Board of Agriculture in that country to enquire into and report upon the desirability of regulations for butter—in other words, the establishment of legal limits for the various constituents of butter, and especially of water. The evidence of many technical and expert witnesses was taken and a large amount of information and data obtained, the whole of which has since been issued as a Government Report. As a result of the findings of this Committee it has been enacted (in England) that butter to be accounted unadulterated must not contain more than 16 per cent. water.

Percentage of water in Canadian Creamery butter. The passage of this Act made it desirable that we should ascertain the water-content of our own creamery butter, since now more than $5,000,000 worth, annually, finds its way to the English market. To do this, the first step was to obtain samples from Canadian creameries. These were procured through the co-operation of Mr. J. A. Ruddick, Chief of the Dairy Division, the following instructions being forwarded to creameries in various parts of the Dominion.

"Fill a small (half pint or one pint) clean, dry, 'gem' jar with a sample of the butter after being worked and as it is ready for the final package. Screw on the cover, first seeing that the rubber washer is in place, and label the jar with the name of the creamery and buttermaker, and the date of churning. Two samples taken a week apart may be sent from each creamery, the first to be held until the second is ready, and both forwarded together. Pack the jars with Excelsior, or some other suitable material, in a light wooden box, and forward by express to Mr. J. A. Ruddick, Department of Agriculture, Ottawa. Mark each package on the outside: 'Butter for Analysis'."

Blank forms were also sent upon which particulars as to the temperature and other details of manufacture could be entered and returned with the samples. It was thought that such data might possibly show the effect of temperature on water-content and explain any abnormal results that might be obtained.

We also procured through the assistance of the Official Referee of Butter and Cheese a number of samples (30) taken at Montreal from packages ready for export. With one or two exceptions, these butters were all made in July or August.

The analytical data, particulars as to the churning temperature, etc., of the butters (75) received direct from creameries is given in Table I. and similar information, as far as obtainable, from warehouses in Montreal, in Table II.

TABLE II.—CANADIAN CREAMERY BUTTER.

Lab'y No.	Name of Merchant.	Brand.	Per cent of Water.	Inspector's remarks at time of sampling.
76	Hodgson Bros	Daisy	13.88	Slight show of free moisture, mild salt.
77	"	W. Shefford	11.40	Medium dry, slightly greasy, mild.
78	"	F. J. S	13.66	Beady, moisture dripped, med. high salt.
79	"	A. C. Andover	11.19	Little beady, medium salt.
80	A. A. Ayer Co	A-G—5	12.17	Small show of moisture, saltless.
81	"	Eagle 1	13.22	Dry, pasty, light salt.
82	"	C-M—49	12 49	Dry, pasty, saltless.
83	"	Rock River	15.37	Moist, trier dripped, highly salted.
84	"	Excelsior	13.07	Slightly moist, saltless, body brittle.
85	"	G-M—14	14.52	Slightly moist, medium high salt, brittle.
86	"	G-M—15	7.94	Very moist, trier dripped, medium high
87	"	G-M—25	10.68	Moist, trier dripped, milky, high salt.
88	"	A-G—277	13 19	Very little milky, moist, high salt.
89	Lovell & Christmas	E. A	14 90	Dry, mild, salted.
90	"	965 Registered	11.64	Moist, body weak, mild salt.
91	"	L. C.—7	12.17	Little beady, extra mild, salt.
92	"	4	12.33	Dry salt, a little above average.
93	"	(D) 63	13.23	Beady, medium salt.
94	A. W. Grant	G —511	11.03	Beady, medium high salt.
95	"	St. Basil	14.69	Little moist, mild salt.
96	"	P-B 946—2	13 89	Dry, pasty, extra mild salt.
97	"	J. M. C G	14.03	Extra mild, dry.
98	"	No. 2, tubs	11 89	Some free moisture, extra salt.
99	"	North Hatley	13.27	Quite dry, pasty, high salt.
100	St. Arnaud & Clement	Rose—4	13 92	Very moist, dripped, milky, extra salt.
101	J. Alexander	Maple Wood	12.48	Very moist, dripped, mild salt.
102	"	Astor Rose	11.14	Quite moist, beady, mild salt.
103	"	Reg. 199	13 62	Dry, mild salt.
104	"	White Star	10 94	Dry, pasty, mild.
105	"	Diamond	13.03	Dry, pasty, mild.

Looking over these results, it will be apparent that we have in them a considerable amount of evidence to corroborate the statement that low temperatures for churning and washing have a tendency to low moisture content.

TABLE I.—CANADIAN CREAMERY BUTTER, 1902.

Laboratory Number.	Name of Creamery and P. O. Address.	Water per cent.	Gathered Cream or Separator System.	Date of Churning.	Temperature of Ripening.	Temperature of Churning.	Temperature of Washing.	Style of Churn.	Worked once or twice.	Temperature held between working.	Size of butter granules.	Rate of salt used.
	Prince Edward Island :											
1	Federal Dairy Co., Eldon	10 67	Separator	Aug. 13	70	50	48	Combined Simplex	Once		Sl. smaller than wheat.	1 oz. per lb.
2	do "	11.27	"	" 22	69	53	48	" "	"		" " "	" "
3	Crapaud	10.82	"	" 22	64	56	50	Curtis	"		Sl. larger than wheat	" "
4	do	10.56	"	Sept. 4	60	54	50	"	"		Wheat	" "
5	Lake Verd	12 63	"	" 4	65	52	46	Simplex	Twice	53	"	½ oz. per lb.
6	do	12.08	"	" 10	65	53	46	"	"	54	"	" "
	New Brunswick :											
7	Madawaska Co., Ste. Anne	11.32	"	Oct. 22	60	52	50	Square box	Once		"	4 per cent.
8	do "	10.36	"	" 28	....	....	....	"	"		"	4 "
	Quebec :											
9	Green Valley, Mansonville	10.19	Both	June 26	57	52	50	"	Twice	50	"	4 "
10	Crown, Iron Hill	12.22	Separator	" 26	60	56	58	Square	Once		"	4 "
11	West Shefford	13 69	"	" 24	58	56	48	Box	"		"	4 "
12	Mawcook	13.07	"	" 26	66	54	51	Square	"		"	
13	Missisquoi Co , Frelighsburg	12.96	"	" 27	....	56	....	Victor	"		"	
14	Fordyce, Cowansville	11.65	"	" 25	63	58	54	Key City	"		"	4½ "
15	Maple Wood, West Shefford	11.99	"	" 24	60	57	50	Victor	"		Peans	3 "
16	Berarger, No. 277	13.46	"	" 24	60	60	58	Victor combined	"		Small pea	3 "
17	do	12 26	"	" 27	60	56	56	"	"		"	3 "
18	St. Et enne de Bolton	13 06	"	" 24	64	50	56	"	Twice	56	One cubic line	4 "
19	do	12.67	"	July 3	64	50	56	"	"	56	" "	4 "
20	Pont Riviere du Loup, Louisville	14 26	"	" 24	68	60	62	Victor	Once		Hazelnut	4¼ "
21	do "	16 77	"	" 31	70	63	64	"	"		Wheat	4¼ "
22	St. Martin, St. Felix de Valois	12 83	"	Aug. 7	68	56	59	Square	"		Corn	2¾ "
23	do "	12.99	"	" 15	69	56	59	"	"		"	2¾ "
	Ontario.											
24	Strathroy	14.00	"	June 30	61	50	52	Box	"		Rice	
25	do	14 98	"	July 8	65	52	52	"	"		Wheat	
26	Locust Hill	10.91	Both	" 31	65	50	46	Trunk	"		"	1 oz. per lb
27	do	11.12	"	Aug 7	64	50	46	"	"		Small wheat	" "
28	Bluevale	10.69	Gathered	" 4	70	52	52	Box	"		Wheat	¾ " "
29	do	11 65	"	" 8	70	54	52	"	"		"	" "
30	Eden, Beaverton	13.52	Separator	" 4	65	52	52	Victor combined	"		" (small)	⅞ " "
31	do "	12.80	"	" 11	67	52	52	"	"		"	" "
32	Springbank, Lakelet	14 67	Gathered	July 22	....	57	52	Simplex	"		"	¾ " "
33	do "	15.20	"	" 26	....	57	52	"	"		"	" "
34	do "	13.75	"	Aug. 15	....	56	52	"	"		Small pea	⅝ " "
35	do "	12.93	"	" 21	....	57	52	"	"		"	" "

36	Tara	13.85	Gathered	July	11	....	54	49	Simplex	Once	.....	No. 4 shot	¾	oz.	per lb.
37	do	14.15	"	"	18	....	53	50	"	"	.....	L. larger than shot	....	"	"
38	do	13 48	"	Aug.	25	....	54	51	"	"	.....		⅝	"	"
39	do	13.92	"	Sept.	2	....	53	51	"	"	.....		....	"	"
40	St. Jacobs	11.73	Separator	Aug.	28	66	54	52	Box	"	.....	Pea		"	"
41	do	11.59	"	Sept.	4	66	52	52	"	"	.....	Wheat		"	"
42	Ayton	14.01	Gathered	June	30	70	56	50	Simplex	"	.....	Small pea		"	"
43	do	13.88	"	July	4	70	56	50	"	"	.....	"		"	"
44	do	12.56	"	Aug.	27	70	53	51	"	"	.....	"		"	"
45	do	12.38	"	Sept.	3	70	54	51	"	"	.....	"		"	"
46	East Valley, Alton	12.58	"	Oct.	2	65	54	....	Trunk	"	.....	"		None.	
47	do	11.30	"	"	4	65	54	....	"	"	.....	"		½	oz. per lb.
48	C. E. Farm, Ottawa	13.03	Separator	"	14	68	55	52	Daisy	"	.....	Pea			
49	do	12.28	"	"	15	72	54	50	"	"	.....	Large Pea			
	Alberta:														
50	Innisfail	11.49	Gathered	Aug.	1	56	54	50	Box	Once	.....	Wheat		½	oz. per lb.
51	do	11.79	"	"	8	58	57	48	"	"	.....	"		"	"
52	Edmonton	8 92	"	"	2	60	56	52	Curtis	Twice	48	"		"	"
53	do	9.40	"	"	9	58	54	52	"	"	48	Sl. smaller wheat		"	"
54	Red Deer	9.84	"	"	1	64	60	42	Box	"	50	Sl. larger "		"	"
55	do	10.58	"	"	13	65	59	42	"	"	50	Pea		"	"
56	Tindastoll	11.69	"	"	9	58	58	46	Trunk	"	60	Wheat		"	"
57	do	11.66	"	"	16	58	58	46	"	"	60	"		"	"
58	Olds	12.86	"	"	12	57	57	50	Box	Once	..	Clover seed		"	"
59	do	10.47	"	"	19	64	57	48	"	"	.....	"		"	"
	Assinaboia:														
60	Regina Government	11.11	"	"	2	66	56	46	"	Twice	46	Sm wheat		"	"
61	Dairy Station, Regina	11.37	"	"	6	67	58	48	"	Once	.....	Wheat		"	"
62	Churchbridge	13.32	"	"	9	65	58	49	Victor combined	"	.....	"		1 1-16	per lb
63	do	13.35	"	"	15	66	58	50	" "	"	.....	"		"	"
64	Grenfell	10.23	"	"	16	61	58	50	Trunk	"	.....	"		1	oz per lb
65	do	10.61	"	"	19	60	57	51	"	"	.....	Sm. wheat		"	"
66	Moosomin	9.68	"	"	2	65	57	42	Fargo's combined	Twice	60	Pea		1 1-16	"
67	do	10.77	"	"	13	65	58	43	" "	"	50	Sm. wheat		"	"
68	South Qu'Appelle	11.02	Both	"	9	66	59	49	Box	Once	.....	Wheat		5½	per cent.
69	do	10.88	"	"	15	65	59	50	"	"	.....	Large wheat		"	"
70	Saltcoats	12 03	Gathered	"	5	66	62	45	"	Twice	46			1	oz. per lb
71	do	9 62	"	"	26	66	63	45	"	"	50			"	"
72	Moose Jaw	11.57	"	"	2	66	59	50	"	Once	.....	Wheat		"	"
73	do	12 56	"	"	9	59	58	50	"	"	.....	"		"	"
	Saskatchewan:														
74	Gov't Dairy Stat., Prince Albert	12.32	"	"	8	63	55	44	"	"	.....	Wheat		1	oz. per lb.
75	do	11.40	"	"	16	68	56	44	"	"	.....	Small pea		"	"

But if we are to assume the temperatures given as correct, then we must conclude there are also other factors that play a part in regulating the proportion of water present in butter. However, I shall not discuss these now, for if we are to draw definite conclusions in this matter I feel that it is highly desirable, if indeed it is not absolutely necessary, that the butter for such a research be made in a creamery under special supervision, and in which all such data as are required can be accurately obtained and recorded. Such a creamery would be one at a Government Dairy School or Experimental Farm. Perhaps we may be in a position during the coming year to prosecute such work. But this is a matter for future research. Results of this investigation are ample to prove the present state of creamery butter as regards its percentage of moisture.

We may summarize the data of Tables I. and II. as follows :

Average Per Cent. of Water.

In samples from creameries (75)	12.16
In samples taken at warehouse (30)	12.69
In 105 samples	12.31

	Maximum	Minimum
In samples from creameries	16.77 per cent.	8.92 per cent.
In samples taken at warehouse	15.37 per cent.	7.94 per cent.

The following tabular statement is of interest in showing that the larger number of the butters examined have a water-content between 11 per cent. and 14 per cent.:

Range of Water-content.

Percentage of Water	Number of Samples.
Between 7 and 8	1
" 8 " 9	1
" 9 " 10	4
" 10 " 11	15
" 11 " 12	24
" 12 " 13	23
" 13 " 14	24
" 14 " 15	10
" 15 " 16	2
" 16 " 17	1
Total	105

All this, to my mind, is very satisfactory. It shows that we have nothing to fear from the analysis of our butter in England; it will prove to the English buyer and English consumer that as regards composition we have a first class article to sell. Moreover, it places our butter on a higher status of excellence than most of the butters from other countries now on the English market. On these points, allow me to quote from the bulletin we have recently published on this subject :

"The fact that of 105 samples only two show more than 15 per cent. water, that only one exceeds 16 per cent., and that ninety-two fall below 14 per cent., is fairly conclusive evidence that Canadian creamery butter is well within the limit allowed by English law. Indeed, Canadian creamery butter would appear to be drier than most of the butter made in Europe which finds its way to the English market. This will be evident from comparison of the averages we obtained with the following taken from the recent report of the Departmental Committee on Butter Regulations (England, 1902):—

Percentage of Water in Foreign Butters.

		Samples.	Per cent.
(a) Danish :	Average, summer	2,001	14.03
	" winter	1,930	14.41
(b) Danish :	Average in 1889-1892	1,288	14.58
	" 1887-1900	8,340	13.97
(c) Swedish :	Average in 1894-1900	8,340	13.57
(d) Irish :	Munster Dairy School, average	52	14.06
"	Estate No. 1	23	12.74
"	Co-operative Dairy	5	14.32
"	Tenant Farmer No. 1	21	14.61
(e) Irish :	Yearly average, 1896	131	13.93
	" 1897	329	14.31
	" 1898	298	14.42
	" 1899	552	14.24
	" 1900	615	14.11

(a) Amount of moisture found in Danish butter, handed in by Mr. Bannister.

(b) Amount of moisture found in Danish butter, handed in by Mr. Harold Faber.

(c) Amount of water in Swedish butter (creamery), from tables supplied by the Swedish Agricultural Agent in England.

(d) Amount of water in certain Irish butters, from data supplied by Beamish, Harrington & Forrest.

(e) Amount of water in Irish butters, handed in by Dr. Gissel.

The circulation of these facts cannot but increase the confidence of the English consumer of our butter. I am of opinion that we should jealously guard our reputation and do all in our power to retain this confidence. We must not seek to make a butter close up to the water-content limit. Such an action in my opinion would be extremely foolish. A present gain would be as nothing to the distrust that might arise in the minds of the English consumers. Perhaps we do not at present know what proportion of water is conducive to the highest quality of butter, but we must seek to find that out. If it be 14.5 per cent., instead of 12.5 per cent., then we must manufacture accordingly. But if we find our butter has better "body", better flavor, and better keeping qualities with 12.5 per cent. water than with more, then we must, in our own interests, keep on making as we are now in the habit of doing with low churning and washing temperatures. And we can let the Englishman know that in our butter he purchases a greater food value than he gets in other foreign butters. I feel sure he will respond and that we shall be rewarded for our skill and honesty.

Relation of Moisture-content to Inspection Rating. In closing, perhaps I should say a word on this subject. Our work goes to show that the appearance of a butter as sampled affords, generally speaking, no criterion as to its moisture-content. Many of those reported as "dry" contain more than the average amount of water; while several returned as "moist" and "very moist", show, on analysis, the lowest percentages. It seems quite possible under certain circumstances to incorporate a considerable amount of water without making its presence noticeable, and, on the other hand, the physical condition of a butter may be such that a small percentage of moisture shows in "beads" and "tears" dripping readily from the trier.

No doubt the amount of salt present, the size of the granules as they leave the churn, and the mode and amount of working, have much to do with this. I do not know and cannot explain all the causes, at the present time, I can only record that the butter expert's opinion in many instances was widely divergent from the analytical data. This statement does not in the least reflect on the skill or knowledge of the expert, it only shows that appearances are not always to be relied on. The reasons for this we hope to work out in our future research on the composition and quality of Canadian creamery butter. We have made a beginning and met with most satisfactory results. I trust that before another annual convention of this Association is called we may have gained still further information on this important subject.

Mr. C. Marker, Superintendent of Government Creameries at Calgary, being called upon for a few remarks, said: In this connection I may add that Dr. Storch, of Denmark, one of the foremost dairy scientists of the day, has demonstrated that the percentage of "bound" moisture, that is, that portion of the moisture which, combined with certain albuminoids, etc., plays such a part in the structure peculiar to butter, is largely determined by the ripening process of the cream, and the "free" moisture is to some extent due to mechanical causes, such as churning and working conditions. The "free" moisture apparent in some butter is no indication of the percentage of water, as determined by chemical analysis. This is quite in line with the work done and the conclusions reached by Mr. Shutt. I have listened with interest to the references made by previous speakers to the large exports of dairy products from Denmark, and the high position which these occupy in the great markets of the world. The secret, or rather the reason, of the uniformly excellent quality of these products is largely due to the fact that in Denmark agricultural science and practice go hand in hand. Scientific investigation and scientific practice have done in Denmark what may be done in Canada as well.

THE BACON PIG AND HOW TO FEED HIM.

By F. W. Hodson, Live Stock Commissioner, Ottawa.

In recent years much has been said and written concerning the home and foreign markets for pork and pork products. The desired pig has been described as a long, lean singer ; this definition has led many into error, they supposing from the description that the old razor-back pig was the most to be desired. Even some clever American professors have fallen into this error, and have gone so far as to select some of these Southwestern "razor-back pigs" and fatten them for exhibit at Chicago, claiming that they were the hog demanded by the English markets. When these animals were killed it was found that they did not possess desirable carcasses ; the lean meat was of undesirable quality, and not abundant, while the fat was too abundant in proportion to the lean. The pig required for the English and the best Canadian markets should be described as a long, deep, fleshy singer, that is, an animal whose carcass abounds in lean, juicy meat of the best quality, and in which the proportions of fat and lean are properly balanced ; a carcass possessing if possible a much greater proportion of lean meat than fat. This brings us to consider the

Thick Fat Pig. Many discerning men quite properly ask: "Why is it that the thick, fat pigs bring higher prices in Chicago and other American markets than the lean singer, and why is it that there is a greater demand for this type of pig in American markets than for the lean singer?" It is partly because of the large foreign population in the United States ; most of these people prefer the thick

fat pork to that of any other quality. This population, together with the large demand from the Americans, consume a great deal of lard. Then again, it must be remembered that pork in the United States is a by-product ; not of the cheese factories and dairy farms, but of the great corn fields of the middle West, and Southern States. In these portions of the United States great numbers of pigs are reared on the blue grass and clover. They receive little additional feed, which is usually corn, until they are of suitable age, when they follow the fattening cattle in the corn fields, in the proportion of one bullock to four pigs ; these pigs pick up what the cattle break down, and otherwise consume the waste. By this means pork can be sold at a profit of three cents per pound. It is said by some feeders that the cost of production by this method does not exceed two cents per pound, but by this method the thick, fat type of pig only is produced, not the finer classes of bacon. Very great quantities of pork and pork products are annually produced in this way. When we consider these facts we must conclude that Canadians cannot compete in the production of this thick, fat pig, neither can the American feeders produce the finer classes of bacon. Even if they could, it is doubtful whether they would be willing to do the work necessary to produce the Wiltshire sides and other of the finer grades. It is more profitable for them and much less laborious to produce the thicker and heavier pork.

Therefore, it was necessary for the Canadian pork packers to cast about to find a market for what Canada is best calculated to produce, and they found this in the market for the Wiltshire side. This is not an inexhaustible market, and may be overdone. Ireland, Denmark and a portion of England cater to this trade, and may be considered as our chief competitors. Canada can only hope to maintain a foothold and perhaps a growing trade on the English markets by putting on these markets the choicest products. This is a point I should like to emphasize : every time a Canadian farmer sells to the packer an undesirable pig he injures this market, but first-class products always bring to us a steadily growing market. In order to hold this trade our packers must be supplied with pigs of the right quality each day, pigs of uniform quality, long, deep and fleshy. At the present time the demands of the Maritime market are not for export trade, but for home consumption, and your packers seem to desire a thicker and fatter pig than is desirable for the foreign trade ; but this condition is gradually changing, and even your home market is demanding a better class of pork each year. Although this is the case, you will find that buyers will go through the country and pay what is known as level prices, paying the same rate per pound for the wrong as well as the right kind of pig. This is very discouraging to the farmer who is endeavoring to produce the kind of pig the market demands, but the fault in this particular is in many cases with the seller as well as the buyer. If a buyer comes to a farm where there are fifty pigs for sale, forty of which are first-class, ten the farmer knows to be seconds, either too thin or too thick, too heavy or too light, he may say : "I will give you 6c per pound for the number one pigs and 4 1-2c for the number two." It is ten chances to one if the seller does not say : "I must have 6c a pound for the lot or you cannot have them." If the buyer leaves them, the next buyer that comes along will probably pay 5 3-4c or 5 1-2c for the lot. The farmer by compelling the drover to buy in this way is doing an injury to himself and to the trade. The packers overcome this difficulty by buying at a level price, and they determine what the price shall be this week by the quality of the pigs they received last week. For instance, when pigs grading No. 1 are selling at 5c and lower grades for 4c per pound, live weight, and 60 per cent. of the offerings rank seconds and lower, the average price paid by

drovers would be $4.40 ; if 60 per cent. were No. 1 and 40 per cent. No. 2, the average price would be $4.60 ; if 80 per cent. were No. 1 and 20 per cent. No. 2 and lower, the average price would be $4.80, a difference between the first and last of 40c per hundred weight, not a large amount if calculated on the weight of a few pigs, but an enormous sum when applied to the yearly output of Canada.

Canadian farmers lose at least 20c per hundred on all pigs because of these conditions; packers fixing their buying price according to their average receipts from sales. The man who insists on breeding the wrong type of pig, or on feeding improperly, not only loses 20c per hundred himself, but causes his neighbor to do so as well. Not only this, but he injures the home and foreign trade. Therefore, it is to the interests of every citizen that the right sort of pigs be bred on every Canadian farm, and that they be properly fed. Pigs of the wrong type cannot be made good by any kind of feeding, yet bad feeding will spoil a good pig. A loss of 20c per hundred on all pigs sold to packers means a total loss to the farmers of Canada of $300,000 to $500,000 annually.

Feeding Pens.

One of the first necessities in feeding pigs is a first-class pen. These pens should be very light and well ventilated, no dark corners. They should be built so that they will be warm in winter and cool in summer. It is usually better to have two pens, one for feeding and the other for breeding stock, as the breeding pigs require more attention than the feeding or finishing animals. It will be found a good system to feed a nursing sow and pigs, until the litter is five months old, three times a day. Pigs in the finishing stage, that is from 140 to 220 pounds, need not be fed oftener than twice a day, morning and night, but the feeding period should extend over a considerable time. Attached to the feeding pen should be a yard, in which all the liquid and solid manure can be saved, and in this particular I would like to draw your attention to the value of pig manure, which on a good many farms is unfortunately wasted. I will give you a little data in following was prepared by Sir John B. Lawes, and shows the relative value in manure of one ton each of the following feeds :

Linseed cake	$19 72	Clover hay	$ 9 64
Linseed meal	15 65	Meadow hay	6 43
English beans	15 75	Bean straw	3 87
Peas	13 38	Pea straw	3 74
Tares	16 75	Wheat straw	2 68
Lentils	16 51	Barley straw	2 55
Malt dust	18 21	Oat straw	2 90
Indian meal	6 65	Mangel wurzels	1 07
Wheat	7 08	Swedish turnips	91
Barley	6 32	Common turnips	86
Oats	7 70	Potatoes	1 50
Fine shorts	13 53	Carrots	80
Coarse shorts	14 36	Parsnips	1 15
Wheat bran	14 59		

The probable value of manure in producing 100 pounds of pork are as follows :

Value of manure in producing 100 lbs. pork from Indian corn	$1 78
Value of manure in producing 100 lbs. pork from peas	3 56
Value of manure in producing 100 lbs. pork from clover	4 82
Value of manure in producing 100 lbs. pork from skimmilk	5 00
The average value of the manure	3 79

It is stated that the value of the manure, liquid and solid, from a brood sow or stock pig for one year is about $12.00.

The question can be very properly asked: What precaution are we taking to save this valuable product? More manure means heavier crops, heavier crops mean more manure, and by exercising care in this respect our farms will grow richer yearly.

While we need warm, well-ventilated pens for winter feeding, our summer feeding should be done on pasture, if possible where lucerne will grow. The pigs will thrive on lucerne pasture, and will also do well on clover, timothy, tares, rape and rye. When they are turned out on pasture, moveable pens should be used. These are permanently fastened to 4 x 4 skids, and can be readily moved from place to place with one horse.

Unsuitable and Doubtful Foods.

Beans. Have been blamed for the production of a large quantity of soft pork in Western Ontario. That is a bean-growing district, and a large quantities of damaged beans have been fed to pigs. The packers claim that the pork thus produced is soft and of inferior quality. Conclusive experiments have not yet been conducted, but we will be safe in the meantime to give beans a wide berth as far as pig-feeding is concerned. The beans fed in Ontario must not be confounded with the horse bean, which can be grown in the Eastern Provinces, and which is grown to a considerable extent in Great Britain.

Buckwheat. This should never be fed as a whole grain ration. As regards increase in live weight for amount of feed consumed it is but slightly inferior to wheat, but it is heating in character, and does not produce first-class bacon. It may be fed in limited quantities in connection with peas, oats or barley, but in no case should form more than one-quarter of the grain ration. It will perhaps give better results when mixed with oats or barley than with other grains.

Rye. Both rye shorts and rye bran in any considerable quantity have been found prejudicial to obtaining the best quality of bacon. Rye itself as regards the gain in weight is about equal in feeding value to barley, while as regards its influence on the quality of bacon, Danish experiments have found it favorable. In view of the bad results contained from its by-products, however, it would be well to refrain from feeding to any great extent, until our experiment stations have made further tests of its practical value.

Sloppy Foods. Some feeders make the serious mistake of feeding their pigs too much "sloppy" food, that is, too much water or swill added to the grain. The Danes and Germans long ago found out the unsatisfactory results from thus doing, and therefore lay great stress on having the food just moist enough to run easily into the trough.

What to Feed.

Barley. In Great Britain and Denmark barley is favored above all other pigs' foods, the bacon resulting therefrom being very sweet and of high quality. It may be fed as a whole grain ration, but will give better results if mixed with such feeds as peas, wheat, corn, oats, or shorts. In comparison with corn meal, 8 per cent. more barley was required to produce a given gain. The barley-fed pigs also drank about twice as much water as the corn-fed pigs. In this experiment, as in other experiments, the carcasses of the corn-fed pigs were rated as poor in quality, and while 92 per cent. of those fed on barley alone came in classes No. 1 and 2, only 62 per cent. of those

fed on corn throughout were qualified for these two classes, and 14 per cent. came in class No. 3, which were sold at a discount.

Wheat and its bye-products. Wheat has a feeding value practically equal to corn, as regards the amount of gain in live weight, and the bacon produced is of good quality. It is only, however, during an era of low prices for wheat that it can be economically and profitably used for feeding purpses, but goose wheat and frozen wheat, such as can be obtained in Manitoba and the Northwest Territories, can be put to good service in feeding swine. The pork produced from frozen wheat at the Central Experimental Farm, Ottawa, was rated higher than that produced by peas ; 15.46 pounds of increase in live weight were obtained there from one bushel of frozen wheat. It was thought at one time that wheat might be the cause of soft bacon, but experiments have proved that such is not the case.

Of the bye-products of wheat the value of shorts or middlings as a food for both young and older pigs is well known. Experiments have proved middlings superior to corn in the proportion of 108 to 100. A combination of the two was found to be 20 per cent. more economical than middlings alone. Shorts has a tendency to produce soft and undesirable pork, therefore should never be fed except in combination with peas, barley, corn and other grains. If, however, skimmilk or whey is fed in combination with the ration of which shorts form a part in addition to this the hogs get plenty of exercise, the quality of the bacon will not be affected. Bacon from pigs fed exclusively on shorts and bran is darkish in color, and contains a large proportion of lean meat. The Kansas Experiment Station in some tests found that bacon thus produced possessed a hard toughness when fried, and also shrank more than corn-fed pork when boiled.

Bran. The chaffy character of this food renders it unfit for the digestive apparatus of the young pig, but as they increase in size some bran may be fed with advantage ; bran may be fed with good results to breeding stock, and to a limited extent to fattening swine.

Peas make an admirable adjunct to other grains in the feeding of swine. They are best fed ground, but they have given good results where they have been fed whole, and soaked for some hours previously. They should not be fed alone, but in combination with barley, oats, corn and other grains. It is stated that when fed as the sole grain ration, both the fat and the lean of the carcass is apt to be too hard.

Oats. Are very valuable for both growing and feeding swine, but should always be fed in connection with corn, peas or barley in order to get the best results. For young and growing pigs I have found that two-thirds oats and one-third corn, two-thirds oats and one-third peas or one-third oats, one-third barley and one-third corn have given excellent results.

Corn. Prof. Henry in his admirable work "Feeds and Feeding" says that corn should constitute not over half the ration at any time, the quantity being smallest with young animals. As the body increases in size and nears maturity the demand for protein and ash becomes less and the proportion of corn to other grains can be gradually increased until during the fattening stage the ration may if desired consist almost wholly of this grain. Whether corn should be fed whole or as meal depends on circumstances. If the kernels are very hard the corn should be ground. If not trouble arises from this source the utility of grinding hinges on the relative cost of grain and grinding. Some grain is saved by reduction to meal and the feeder can easily estimate whether he should incur the extra expense of grinding. Where grinding is not possible hard corn may be prepared for feeding by soaking the grains. Corn meal should always be soaked in water before feeding, the dry meal being unpalatable; but corn, like other grain, will give the best

results when fed in combination with other foods, particularly oats, barley, and skimmilk. Pigs will do very well fed on corn and skimmilk in the proportion of three to five pounds of skimmilk to one pound of corn.

Whey, Skimmilk and Buttermilk. Numerous experiments and practical work done by individual feeders have proved the great value of dairy by-products as part of the rations for fattening swine. There is practically no difference in the feeding value of skimmilk, buttermilk or whey when all three are fed in prime condition, except that of course the skimmilk will be richer or poorer according to the care taken to remove the butterfat in the separator. Five pounds of skimmilk per head a day is an economical allowance in fattening swine over 100 pounds in weight when mixed grains are fed. Where corn was fed, as in Wisconsin, the best returns were secured with not more than three pounds of milk to each pound of meal. Experiments have shown that one pound of mixed peas, barley and rye is equivalent to 6.65 pounds of skimmilk. The protein and ash in the milk are what are needed to give strength to the bones and develop the muscles sufficiently. Whey and skimmilk produce rapid and economical gains and a fine quality of bacon even when no exercise is given to the fattening stock, and counteract the tendency to softness produced by too lavish feeding of shorts. The average results of experiments at the Guelph and Wisconsin stations show that 785 pounds of whey are equal to 100 pounds of grain.

Danish experiments have proven that 1,253 pounds of unskimmed milk, 1,613 pounds of sweet skimmed milk and 1,545 pounds of sour skimmilk will each produce 100 pounds of gain.

Experiments at the Wisconsin experiment station go to prove that 327 pounds of skimmilk equal 100 pounds of corn meal when not over three pounds of skimmilk are fed with each pound of meal : 445 pounds of skimmilk equal 100 pounds of meal when from three to five pounds of skimmilk are fed with each pound of meal ; 574 pounds of skimmilk equal 100 pounds of meal when from five to seven pounds of skimmilk are fed with each pound of meal; 552 pounds of skimmilk equal 100 pounds of meal when from seven to nine pounds of skimmilk are fed with each pound of meal. Average of all 475 pounds of skimmilk equal 100 pounds of meal. Danish experiments show six pounds of skimmilk equal to one pound of grain.

Value of Skimmilk in Combination with Corn Meal for Pig Feeding, with Corn at Varying Prices.

Value of corn.	Value of 100 lbs. skim-milk.		
	When feeding 1 to 3 lbs. milk to 1 lb. meal.	When feeding 7 to 9 lbs. milk to 1 lb. cornmeal.	Average.
$10 ton, (28c. per bus)	9	15	11
$12 " (33.6c. ")	11	18	13
$14 " (39.2c. ")	13	21	15
$16 " (44.8c. ")	15	24	17
$18 " (50.14c. ")	16	28	19
$20 " (56c. ")	18	31	21
$30 " (84c. ")	27	46	32

The average of the trials is 11c.

Experiments show that there is practically no difference between sweet and sour milk for pig feeding, providing however that the utensils are kept clean and not allowed to become foul.

Regarding buttermilk in general it may be assumed that when no water has been added to it, it has a feeding value equal to skimmilk.

As a result of experiments conducted at Guelph and in Wisconsin it has been found that 784 pounds of whey is equal to 100 pounds of grain, the grain in this case being a mixed ration which would probably equal corn as a grain ration, when fed with the bye-products of the dairy.

The average values of the bye-products of the dairy as determined by Canadian and American experiments are as follows: 475 pounds of skimmilk, or buttermilk free from water, equals 100 pounds of corn meal.

Danish experiments show that: 600 pounds of skimmilk equal 100 pounds of corn meal. 785 pounds of whey equal 100 pounds of corn meal. Fjords (Feorde) experiments in Denmark show 6 pounds of skimmilk to be equal to one pound of grain, and 1,200 pounds of whey to be equal to 100 pounds of corn meal. The whey used by this investigator was a bye-product from the manufacture of skimmilk cheese, and it was necessarily poorer in fat than that used by American feeders.

Clover Hay. Stewart fed pigs averaging seventy-five pounds each with corn meal, two quarts of short cut clover being added to each day's allowance, and the whole wet with hot water, and allowed to stand ten to twelve hours before feeding. Another lot received meal prepared in the same way but without the clover mixture. The lot getting clover hay showed the best appetite, the greatest thrift and made the steadiest gains. The pigs getting meal gained 110 pounds each in 120 days, while those having the cut clover hay mixed with their meal gained 143 pounds or 30 per cent. more. The possible value of moistened clover-hay as a by-feed with pigs is well illustrated by this trial.

Pasture. Results of experiments in America show with one exception that pigs will maintain themselves on pasture without making any appreciable gain. It is more economical to feed a half ration of grain each day than a larger or smaller quantity. The pasture will maintain the animals, while the grain given them will be entirely utilized in increasing the weight. The best pasture plant for pigs is alfalfa, where it will grow, while red clover, white clover, blue grass, and rape are good pastures in about the order named. A pasture to be satisfactory for swine must be short and tender. Experiments show that one acre of rape or other suitable pasture is equivalent to 2,600 pounds of grain in feeding pigs.

Potatoes. Should always be soaked, and may be profitably fed with grain for the production of bacon without fear of injuring the meat. This has been proven by both Danish and American experiments. From four to four and a half pounds of potatoes are equal to one pound of grain in pig feeding.

Artichokes. These are said to have the same feeding value as potatoes, but may be fed without being cooked, and while the average crop of potatoes will be 200 to 250 bushels per acre artichokes will range from 800 to 1,200 bushels. They may be planted and cultivated the same as potatoes, but it would be better to reserve a field for the purpose as they are very difficult to get out of the ground. I have found it a good plan to plant them in the fall of the year, or very early in the spring. As soon as the ground freezes up cut off the tops even with the ground and burn them. As soon as the frost is out of the ground in the spring turn the pigs on the artichoke field, putting in a moveable pen for each eight or ten pigs, according to their size. Dig up a few hills of the artichokes here and there to start the pigs looking for food, and as soon as they find the artichokes are in the ground they will dig them readily. In this case any rings should be removed from the noses of the pigs. They will in this way do very well with a small grain ration each

day, if they have free access to water. They should be left in the field until about the first of June, when the land should be thoroughly worked over and the remaining artichokes dug out, and the field immediately sown with rape which in six or eight weeks will be ready to turn the pigs on again. By this method two crops can be obtained from the field one year and none the next, as it requires a long season to mature a crop of artichokes. I know of no method that will produce more pork per acre of land than this. If fed to pigs in pens the artichokes should be cooked, otherwise they are likely to get spread over the farm by small ones getting among the manure and being planted in the fields.

Roots. Eight pounds of mangels or carrots and about the same weight or a little less of sugar beets equal in value one pound of grain. This is the consensus of opinion of the Ottawa, Copenhagen and several American stations. At Copenhagen the mangels were fed finely cut and raw, and even when one-quarter of the daily feed was given in the form of roots no injurious effects were noticed on the quality of the pork. The increase per head in ten days on a ration half the grain and half whey or milk was 7.6 pounds, whereas when the grain was replaced by roots after the proportion of one to ten, the increase was found to be 8.3 and 8.6 pounds. When half the grain was replaced by roots in the proportion of one to eight the growth of the different lots was very nearly the same, viz.:—8.5 pounds for the grain-fed pigs and 8.6 pounds for those fed roots, thus showing a small difference in favor of the latter. It must be noted that the pigs in this experiment had been fed roots previously and consequently took them readily.

Bone Meal and Wood Ashes. In experiments conducted by Prof. Henry as to the advantage of feeding bone meal and wood ashes to fattening pigs in combination with corn meal, it was found that the effect of the bone meal and wood ashes was to save about 28 per cent. of the total amount fed to produce 100 pounds of gain live weight. Bone meal doubled the strength of the thigh bones, while ashes were only slightly inferior in value in this respect. The results show the great usefulness of bone meal and ashes, especially where much corn is fed to hogs. In these experiments the pigs have been well started in their development when the trial began. They were divided into three lots of two each. Lot one received corn meal with salt and water. Lot two received in addition hardwood ashes, while lot three was fed a spoonful of bone meal at each feed in place of ashes. In one of the trials which lasted 112 days, two pigs consumed 10.5 pounds of bone meal, and 7.5 pounds of salt, and during the same time two other pigs consumed thirty-three pounds of wood ashes and eight pounds of salt. The earth in the yard in which the pigs exercised was covered with boards to prevent the animals rooting in it and eating it, as they would otherwise have done, especially those which had no bone meal or ashes to resort to, and consequently would have impaired the results of this experiment.

When bone meal was fed 487 pounds of corn produced 100 pounds of gain; when ashes were given, 491 pounds of corn were required, while 629 pounds had to be fed to obtain the same gain when neither bone meal nor ashes were given.

Cotton Seed. Cotton seed has been fed in some parts of Canada, but it has not been found a desirable feed, and should not at any time be used.

Soaked Meal vs. Dry Meal. The result of tests at the Wisconsin, Minnesota, Oregon, and Missouri stations show that on the average 451 pounds of grain or meal when wet or soaked were equal in feeding value to 483 pounds of dry grain or meal, a difference of 7 per cent. in favor of using wet or soaked meal. This would indicate that the soaking of grain is about as useful in increasing the feeding value as grinding.

REPORT OF INSTRUCTOR PUBLOW.

Every patron in these twenty-five syndicated factories under my charge received a bulletin early in the season, giving instructions regarding the care of milk. I paid particular attention to makers, patrons, and owners. Wherever I found a maker not doing good work I went to him and helped him, or cautioned him as well as I could. Where the milk was found to be in bad condition, I looked up the patron who was at fault and called upon him. Where the factories were in poor condition, I went to the owners and showed them how the state of things might be improved. I held 14 meetings for patrons, with a total attendance of 1,800. I paid 85 special visits to individual farmers regarding the condition of their milk. I made 150 visits to the factories in my syndicate, some of which received eight calls, and none less than four. The result of all this was uniformity in the character of the product; it was difficult to find any cheese that varied much from the others. I found most of the factory owners reasonable, and willing to invest as much as they could to improve their establishments, when it was pointed out to them in a proper way that such improvement was necessary, and would be of decided advantage. I would urge the more frequent gathering together of patrons in public meetings, where they should be interested in matters pertaining to dairying.

PERTH SYNDICATE—1902.

Lot.	Con.	Township.	Proprietor or Secretary.	No. of patrons.	Product (tons).
14	9	Sherbrooke S.	Henry Rigney	50	40
11	9	Dalhousie	Duncan Purdon	56	50
10	3	"	David Forbes	58	50
21	10	Bathurst	Walter Cameron	80	70
25	10	Elmsley	Wm. Spaulding	36	60
....	....	Merrickville (Vil.)	Evertts & Ragsdale	97	112
35	3	Augusta	Howard Bissell	83	140
....	....	Port Emsley	Gardner & Livingston	50	70
25	3	Bathurst	T. B. Moore	43	50
15	2	Drummond	John Rice	74	100
16	7	"	D. Welsh	75	112
3	3	Ramsay	George McCreary	55	89
1	8	Drummond	Richard Warren	98	160
....	....	Lanark (Vil.)	Heron & Baird	38	50
17	3	Lanark	John Taylor	80	80
16	5	"	A. R. McIntyre	63	70
14	11	Drummond	Robt. Richards	39	60
2	11	Lanark	Thos. Willows	38	106
4	4	Kitley	Gardner & Evertts	25	50
....	....	Smith's Falls (Town)	Evertts & Livingston	51	72
....	8	Kitley	Jos. Jones	77	200
19	10	Elizabethtown	D. M. Wilson	53	62
24	2	Wolford	Gardner & Evertts	98	140
21	2	Montague	Strong & Clark	56	86
3	9	Elmsley	Alex. Cameron	48	60
		Total		1,521	2,139

In an article referring to the Government's action in the matter of these class syndicates, "The Sun," Toronto, under date of July 2nd, said: "That the spending of this money is justified is shown by this further fact that buyers have already offered, as the result of the special instruction which is being given, an eighth of a cent above the regular Brockville prices for all the cheese made in the factories under Mr. Publow's control."

Additional information regarding the work of these syndicates is given in the Appendix to this report.

FINANCIAL STATEMENT.

Receipts and Expenditures of the Dairymen's Association of Eastern Ontario.

RECEIPTS.

To balance from audit January 10, 1902	$ 228 17	
" membership fees, 1902	158 00	
" proceeds from advertisements	225 00	
" Legislative grant	4,000 00	
" factory fees from Inspectors	2,997 00	
" prosecutions by Inspectors	463 30	
" membership fees, 1903	150 00	
		$8,221 47

EXPENDITURE.

By grants to Fat Stock and Industrial Exhibitions	$ 100 00	
" printing accounts	111 40	
" accounts from 1901, paid after Convention	60 40	
" A. B. Rabb, Inspector 1901	250 00	
" discount on cheques	5 24	
" salaries	200 00	
" Advisory Board meetings	135 20	
" Reporter	50 00	
" R. W. Thompson, prize essay	50 00	
" Directors' meeting, Toronto	285 00	
" acid for Inspectors	40 00	
" expenses connection with burial (late Treas. P. R. Daly, Esq.)	20 00	
" grant Agricultural Show, Brockville	25 00	
" Inspectors' salaries and expenses: L. A. Zufelt, $1,000; A. P. Purvis, $968; G. H. Bensley, $750; J. B. Lowery, $820; H. H. Howey, $785; R. W. Ward, $750; A. B. Rabb, $250; W. J. Carson, $650; S. G. Lawson, $200	6,173 00	
" expenses Annual Convention, Ottawa	495 00	
" balance on hand January 9, 1903	221 23	
		$8,221 47

We the undersigned hereby certify that we have examined the accounts and vouchers of P. R. Daly, Esq., late Treasurer, and also of J. R. Dargavel, Esq., acting Treasurer of the Dairymen's Association of Eastern Ontario, and find them correct in accordance with the foregoing statement.

F. W. BRENTON, } Auditors.
J. A. KERR, }

CLEAN SEEDS.

Moved by Dr. Stark, of Finch, seconded by G. Casselman, of Finch: "That we, the members of the Dairymen's Association of Eastern Ontario, in session assembled, deem it advisable to memorialize the Legislature and the Federal Parliament to pass immediate legislation to prevent the sale in future of adulterated farming seeds of all kinds. It is a well-known fact that many of our farms are being poisoned by dirty seeds." Carried.

VOTES OF THANKS.

Votes of thanks were passed to the Departments of Agriculture at Ottawa and Toronto for cheerful support and cordial co-operation in regard to all matters affecting our Convention, and to the Ontario Department of Education in placing the Hall of the Normal School at the disposal of the Association.

Votes of thanks were also passed to the railways for special transportation facilities, to the press, more especially the local papers, for their very full reports and favorable editorial references, to Mayor Cook, and to Mr. J. R. Reid, President of the Board of Trade for 1903.

The Mayor and Mr. Cook briefly responded, after which the Convention adjourned.

PREVENTION OF MOULD ON BUTTER.

Following is a copy of some suggestions made by the Montreal Produce Merchants' Association as to points to be covered in a circular to be issued by Prof. J. W. Robertson, the Dairy Commissioner, to buttermakers and patrons with a view to the prevention of mould on butter :

1. That factories should be thoroughly cleaned by liberal whitewashing with lime, and the use of any other germicide that experience can suggest.

2. As damp wood is a hot-bed for breeding and disseminating spores of various kinds, care should be taken to have the woodwork of factories always thoroughly sound and dry, carefully removing all damp and decaying pieces particularly from the floors and gutters. Drainage should be carried away from the factory beyond smelling distance by watertight, vented, and trapped drains.

3. Factory refrigerators should be kept as dry as possible, and nothing but sound wood allowed to remain in their structures.

4. Particular care should be taken that butter boxes are made only of thoroughly seasoned wood carefully and properly paraffined.

5. Only the best and purest parchment paper should be used for lining the boxes. This paper while awaiting use should be kept in a thoroughly dry clean place; before use on the butter it should be carefully soaked in a solution of brine and formalin. It should never be applied in a dry state, and particularly it should never be used after being wet with pure water.

6. Great care should be taken in conveying butter from the factory to the railway station. It should be exposed as little as possible, and for as short a time as possible.

APPENDIX.

HISTORY OF THE OWEN SOUND CREAMERY.*

The reasons that caused me to turn my attention to this project were of a local character. Owen Sound, one of the leading towns of the Province, and the place in which I have resided for the past thirty years, is situated in the midst of a splendid dairying district, and yet for years the local consumer found it difficult to supply his table with butter of a desirable quality, the making of good butter seeming to be almost a lost art. This condition of affairs was owing to the want of an established system of dairy education, a ruinous system of marketing butter, and improper methods of shipping dairy produce to our own and foreign markets. These and other obstacles had the tendency to lower the standard of the butter made in all parts of the Province of Ontario.

I saw that these obstacles could be overcome (so far as a local supply was concerned) by means of a co-operative creamery, whereby a uniform good quality of butter could be produced. In the year 1886 I had a number of the farmers of the vicinity agree to supply me with cream, which was to be separated according to some approved system, and held in good condition until collected by me at regular intervals, if I would establish a creamery in which a desirable brand of butter could be manufactured by using improved appliances and proper methods. Up to that time I had little knowledge of the art of buttermaking myself, and in seeking for something that would aid me in my project I was handed a pamphlet printed by the Ontario Government containing a number of prize essays on buttermaking, and these gave me some excellent pointers. It was not until my plans were well matured and my supply of cream arranged for that I heard about the Experimental Creamery at Guelph; so the idea which led to the establishing of a creamery known as "Pleasant View" was an original one with me.

This creamery was opened in Owen Sound on the 24th of May, 1886, with a daily capacity of two hundred pounds, which has increased to such an extent that it now has a daily capacity of four thousand pounds. It has produced since its establishment a total of 2,750,000 pounds of butter.

Parties who were engaged in dairy work at the time this creamery was started did not have the benefit of such an establishment as that of the Dairy School at Guelph, which has accomplished so much good in the way of dairy education the past ten or fifteen years, nor did they have bulletins filled with valuable dairy instructions sent out freely as they now are to those engaged in the industry. Neither had the travelling dairy, which illustrates the most modern methods of buttermaking, been heard of.

The majority of men and women engaged in the production of butter at that time knew comparatively little concerning the proper care and treatment of milk and its products; so very few were provided with buildings or utensils suitable for good dairy work, and as might be expected, the butter in many cases was not good. This was conveyed to market, some times long distances, in large rolls which were packed in baskets; pails and crocks were also used; and often when the butter reached the market it would be in a semi-melted

*This account was prepared by Mr. James Struthers, at the request of the Department. We would be pleased at any time to receive accounts of other factories and creameries. C. C. JAMES.

condition. The numerous lots of butter thus bought by the local merchants, represented many grades. These lots were stored for some days in the buyers' cellars, then sorted and packed, and forwarded to the home and foreign markets by means of a transportation system unfit for the carrying of dairy products, and thus the fact that Canadian butter was often unfit for human food on reaching the consumer was not surprising.

The price paid to the farmer ranged from eight to twelve cents per pound during the summer months, and he was expected to take store goods in exchange. As a result the dairy did not yield a satisfactory revenue, and these conditions offered no inducement to the dairymen to pay any attention to the feeding of the dairy cow or the economical use of the butterfat.

When deciding to adopt the occupation of co-operative butter-making as a business, I saw clearly that if I and my patrons were to succeed, they must give more attention to the feeding and care of their dairy cows; also to more economical and careful handling of the product. This feeling caused me to be on the lookout for improved methods that would benefit both. I felt that the "deep-setting system" of raising cream was in every respect preferable to the "shallow," and I therefore insisted on a general adoption of the former. This system brought with it the necessity of ice, so I introduced and encouraged the idea of harvesting and storing the necessary supplies of this commodity. Up to this time little more was expected from the dairy cow, than that she would continue giving milk while the grass was good. An improvement on this was brought about by showing the farmers the advantage of supplementing the pasture by means of a cultivated crop, such as corn; and in order to encourage this idea I bought several sacks of seed in London, and had it distributed in small lots at cost to my patrons, and as a result, inside of ten years, every dairy farmer planned to have his field of corn. These innovations resulted in a change for the better in the quantity and quality of the product of the cow, and prices advanced steadily, and instead of trading their butter for store goods fully six hundred patrons now call at the office of the Pleasant View Creamery every month and receive payments in cash for their cream, thus making them more independent.

You will perhaps not be surprised when I say that I feel within me a measure of pride at being identified with the introduction into the county of Grey of the co-operative system of buttermaking, which has to a great extent aided in doing away with what was in the past an unprofitable and laborious system of dairying, and has introduced a much more profitable and in every way more desirable system.

DAIRY SYNDICATES IN ONTARIO.

By G. C. Creelman, Toronto.

One would have thought that when this country reached the stage whereby it produced twenty-five million dollars' worth of manufactured dairy products it had overcome pretty nearly all the difficulties in the business. It was rather surprising therefore, to the uninitiated who attended the annual meetings of the Eastern and Western Dairymen's Associations, held at Whitby and Woodstock in January last, to learn that there were enormous quantities of poor butter still made in the Province of Ontario, and hundred of tons of cheese that were not quite up to the mark.

The consensus of opinion at the Dairy Conventions seemed to be that there were two reasons why our dairy products were not of better quality when they reached either the home or foreign market. The first cause for complaint was with the makers. Many were either inexperienced or old fashioned,

and were not making a good product. In the second place the patrons were to blame. The cows were not of the right stamp; were not properly fed and cared for; the utensils in which the milk was handled were unclean; the milk was kept in unsanitary places, or the milk was tampered with. At any rate in several sections of Ontario our dairymen reported that our cheese was going off in flavor, and that the people in the Old Country were beginning to complain about it.

The two Associations have for years been sending instructors, as far as their means would allow, to the different factories in Ontario. The instructors, however, in many instances acted more often in the capacity of a detective than a teacher. Each man had also, as a rule, so many factories under his jurisdiction that it was impossible to visit them more than once or twice a year. Realizing all the difficulties in the way under the present system, the Department of Agriculture decided to try an experiment, and before the factory season opened the Hon. Mr. Dryden had made arrangements for instruction in all creameries east of Toronto by Mr. J. W. Hart, superintendent of the Eastern Dairy School at Kingston, and all creameries in Western Ontario were placed under the supervision of Mr. Archibald Smith, superintendent of the Western Dairy School, Strathroy. In cheese matters it was decided to select a small district, comprising not more than twenty-five factories, and place one man in charge. Mr. G. G. Publow, of Perth, was selected for the Eastern Division, which comprises the factories in the electoral districts of Lanark and Brockville. A similar arrangement was made in Lambton County, and Mr. Geo. H. Barr, of the Guelph Dairy School, was placed in charge.

The following extracts from letters received from the aboved named gentlemen show to some extent how their work is being appreciated.

"We have your cable offering 2,000 Perths. Cannot understand why there are so many of them. We hope you are not drawing in more outside factories. What we want of Perths are only those under the direct supervision of Mr. Publow."

"The quality of cheese from the factories under Mr. Barr's supervision has very much improved. He is not only helping the makers to produce a finer and better flavored product, but he is following up all "off flavors" and tracing them to their sources. He is also doing much to bring the patrons to understand just how much they are responsible."

Dairy Instruction in Eastern Ontario. By G. G. Publow.

The first step towards improvement was the placing of an instructor over a limited number of factories. The reason for this move was that when a large number of factories were under the supervision of one man the visits were few and far between, and very frequently the maker could not secure the services of the instructor at the time when he was most needed. Consequently a great deal of inferior cheese was made. The object the Department had in forming this Model Syndicate was that makers, buildings and output of cheese, should be raised to a standard as near perfection as possible.

The method that I have adopted to try to bring this about is the visiting of the factories as frequently as possible, giving instructions to the maker in the manufacture; showing the patrons the necessity of delivering their milk in proper condition; pointing out any defects in the out-building or equipment, and showing the necessity for improvement. The most effectual way that I have discovered to reach the patrons and give them this necessary instruction is by holding meetings for them, and inviting them to meet me at the factory during the process of manufacture, where I am able to give them some practical information.

The result of this work up to the present time shows a very great improvement in the general condition of the factories, a marked improvement in the milk, and a more uniform quality of cheese. The effect of this is that quite a number of the factories in this syndicate are now receiving from 1-3 to 1-6 cent per pound above the market price.

The patrons and factory owners seem to be taking a great deal of interest in this new system of instruction, and many of them have already gone to considerable expense to improve the general condition of their factories. But there is still much need of improvement along this line, especially in the matter of better curing facilities and sanitary conditions.

Dairy Instruction in Western Ontario. By G. H. Barr.

The work of instruction in this (Lambton) district commenced the second week in May. There are fifteen factories in the district, and up to the present time I have been able to visit each factory once in three weeks. During the month of June an effort was made to hold a meeting of the patrons at each factory. Ten meetings were held, the attendance being from ten to sixty-five. At the other five factories, on account of indifference of the proprietors and patrons, nobody turned out. At all the meetings a lively interest was manifested, and interesting discussions were held on the proper care of the milk and the cow.

The majority of the factories in the district are small, and in some cases are not in a fit condition in which to manufacture cheese, or to cure the cheese properly after being made. To put them in a first-class condition would mean considerable expense, and as they are not paying expenses now it would be impossible to get the proprietors to do anything in the way of improvement. This is a serious question for the patrons who are sending milk to these poorly equipped factories, as some of them have suffered losses on account of heated cheese, and the makers are unable to do the best work for lack of proper utensils and general equipment.

The work of instruction in the factories is quite encouraging, the makers, in nearly every case, entering heartily into the work of improving the quality of the cheese and having the milk delivered at the factory in better condition. The curd test has been a wonderful revealer of hidden trouble and has helped greatly to locate flavors and gas which were giving the makers trouble. Where it was possible the patrons sending tainted or gassy milk were visited, and much valuable information has been gained as to the causes of taints and gas. When it was not possible to visit the patrons, a card was sent to them, stating the condition of the milk, and the causes, and giving information as to how to overcome the trouble. I am sorry to say that in some cases this help and information to the patron has not been received with very good grace, some even threatening to stop sending their milk. Yet I do not see any other way to improve the quality of the milk than by the said methods, and I must say that after four months steady work among the factories and patrons I find that nine-tenths of the difficulties the cheesemakers have to contend with in making a fancy quality of cheese, are caused by improper care of the milk after it is drawn from the cow, and before it is delivered at the factory. This is where there is tremendous room for education and improvement, and the best results can only be obtained by the hearty co-operation of the instructor, maker, and patron.

The improvement made at some of the factories in keeping the inside of the factory clean, and the surroundings tidy, is quite marked. The buyers say the quality of the cheese is very much improved. The fault most frequently found by them is the flavor, and in that case the patrons are to blame.

DAIRY SCHOOLS OF ONTARIO.

ONTARIO AGRICULTURAL COLLEGE DAIRY SCHOOL.

JAS. MILLS, M.A., L.L.D. ..... Director
H. H. DEAN, B.S.A. ..... Prof. of Dairy Husbandry and Superintendent
G. H. BARR and R. W. STRATTON ..... Instructors in Cheesemaking
W. WADDELL ..... Instructor in Buttermaking
J. A. MCFEETERS ..... Instructor in Separators, Piping, etc
J. F. MILLAR ..... Instructor in Milk-Testing
MISS L. ROSE ..... Instructress in Buttermaking (Farm Dairy)
V. HOOPER ..... Instructor in Separators and Milk-Testing (Farm Dairy)
F. C. HARRISON, B. S. A. ..... Lecturer and Instructor in Dairy Bacteriology
W. P. GAMBLE, B.S.A. ..... Lecturer and Instructor in Dairy Chemistry
MISS HELEN GIVIN ..... Lecturer and Demonstrator in Home Economics

From December 1st, 1902, to March 5th, 1903, there were in attendance at the Dairy School in connection with the Ontario Agricultural College, ninety-nine students, made up of thirteen in the creamery course during December, and eighty-six in the regular month's course during January, February, and March. In addition to this number, forty-six students have registered of the Domestic Science or Home Economics, lectures and demonstrations. The total number, then, who have registered up to the present writing is 145.

The work of the school during the term has been similar to that carried on in previous years. A shop has been fitted up with the necessary piping tools for simple instruction in piping, repairing, etc., and instruction along this line of work has been given to all the Dairy School students. This has been found a great convenience and of great practical value to the students. Two students each day have also been detailed to assist in firing the boiler and running the engine in connection with the dairy, thus giving practical instruction along the lines of handling boilers and engines.

In the Cheese department, Mr. Barr has taken the advanced students in special cheese work. They have conducted experiments in different methods of handling over-ripe milk, gassy curds, etc. The acidimeter has received special attention in the cheese room, and our students have had a thorough drill in its application to cheesemaking. This, we consider, one of the most important advances which has been made in Canadian cheesemaking, as the acidimeter, more incorrectly spoken of as the "alkaline test," has been and will be one of the greatest helps to cheesemakers in making a uniform quality of cheese. This test has been used for some time in our butter department to determine the acidity of cream for churning; but only within the last two years has it been used for cheesemaking purposes. The instructors of the cheese department are assisting the students to get outfits for determining the acidity, of milk, curd, and whey at the various stages of cheesemaking, and we expect to see good results from these changes to the acidimeter, as compared with the old hot-iron test, which is very unreliable, and is of little use to inexperienced makers.

In the Butter department, students have received full instructions in the pasteurization of milk and cream, and in operating power separators. In

addition they have had practice in churning pasteurized cream as delivered by farmers. They have been able to see the difference in the quality of the butter which is produced by these two methods. The whole milk, or separator cream has produced a superior quality of butter. A few experiments have been made in pasteurizing the sour cream, but the results have not been so satisfactory as pasteurizing the sweet cream, which was delivered by the patrons. If a system of pasteurization is to be adopted in cream-gathering creameries, we think that an effort should be made to get the cream delivered sweet and that it should be pasteurized before it sours, rather than after, in order to get good results. No doubt an improvement is made by pasteurizing the sour cream, but the advantages are not nearly so great as the benefits which are derived from pasteurizing the cream while still sweet.

In the Milk-testing department, thorough instruction has been given in the use of the lactometer and Babcock tester, and all testing apparatus which would be required in the ordinary cheese factory or creamery.

The attendance in the Farm Dairy department has not been so large for the present year, nor has the attendance of ladies been quite so large as that of last year.

The quantity of milk which the Dairy School has had to make up daily has varied from 3,000 to 5,000 pounds. In addition to this, from 150 to 200 pounds of butter have been made weekly from cream-gathered cream.

From March 31st to April 10th, there will be a special course at the Dairy School for instructors who are to go on the road giving practical instruction to cheesemakers and buttermakers. We had hoped to have all the instructors of the Province attending this course in order to get uniform methods of making taught all over the Province. While we have not been able to accomplish this for 1903, we hope that next year will see all the instructors gathered at one of the Dairy Schools for comparing notes, and that they may adopt a uniform system of buttermaking and cheesemaking for the whole Province.

We have also announced a special Summer Course for persons who may wish to come to the Dairy School to learn cheesemaking or butttermaking, or pick up any special points with reference to the pasteurization, clarification, or filtration of milk. This course will continue from May 1st to Sept. 30th, 1903.

We are very much pleased that the class which has been in attendance at the Dairy School since the 2nd of January, 1903, has been an exceptionally good one. As a rule, they have been experienced men, in factory class, have given very close attention to the work, and they are a class for whom we can do a great deal of good. We have representatives from the Maritime Provinces in the east to British Columbia in the west; and also students from the United States and New Zealand. There is a good deal of interest being manifested in dairy instruction, and undoubtedly the Dairy Schools can do a great deal to help the Dairy industry by training men to go out as experienced cheese and buttermakers. The demand is very great for first-class men, and we have far more applications for cheese and buttermakers than we are able to fill.

H. H. Dean,
Superintendent.

EASTERN DAIRY SCHOOL, KINGSTON.

G. C. Creelman, M.S., Toronto ..... Director
J. W. Hart ..... Superintendent
G. G. Publow ..... Instructor in Cheesemaking
W. J. Carson, B.S.A. ..... Instructor in Milk-Testing
J. W. Hart ..... Instructor in Cream Separating
Robert Ireland ..... Instructor in Buttermaking
W. T. Connell, M. D., M.R.C.S., Eng. ..... Bacteriologist
G. L. Ward ..... Assistant in Cheesemaking
E. McIntyre ..... Assistant in Buttermaking
Thos. Perry ..... Engineer

There were in attendance from Jan. 1st, 1902, until the close of the session, April 5th, 1902, 117 students, compared with sixty-eight the year previous, while from Dec. 1st, 1902, the date upon which the school opened, until the close of the year, seventeen students registered, a total attendance of 134 for the session. The increase over the number the previous year was twenty-two, and the attendance was the largest in the history of the school.

Nearly all of the students in attendance last session have been employed in cheese factories in the Eastern part of the Province, and fully 90 per cent. of the students have had charge of cheese factories or creameries since they left the school. The reports received from the students have been of the most encouraging nature, and there appears to be a growing disposition on the part of those responsible for engaging makers for factories and creameries to employ men that have had dairy school training.

It is gratifying to report that so many of our students find that they need more knowledge than they can get in one term at the school, and that they return for the second and often the third time. Of the 112 students registered last session sixty-four had been in attendance during some previous year. Students of this class are prepared to take up work of a more advanced grade than those in attendance for the first time, and provision must be made for their needs. Our butter and cheesemakers are alive to the importance of knowing the best and latest in dairy science, and they will continue to attend in increasing numbers if the school is enlarged to accommodate them. Besides preparing the students more thoroughly for their chosen work, larger quarters and better equipment will enable us to more efficiently serve the dairy interests of Eastern Ontario.

Eighteen students wrote on the examinations at the close of the "Long Course", fourteen on cheesemaking and five in butter making, including one student who wrote on both subjects. Of this number eight passed in cheesemaking and three in buttermaking. Four qualified by their season's work in the cheese factory, and one in the creamery for Certificates which were granted them.

The milk furnished by the patrons is gradually improving in quality, but stable flavors continue to be very evident. Milk was supplied the school by fifty-two patrons. Sufficient milk has been offered for the practical work of the School, but in order to have enough in midwinter it is necessary to accept considerably more than we require in the fall and spring. Our equipment is entirely too small for the amount of milk we have to handle, which is a cause of loss and inconvenience to the patrons and an injury to the school, in so far as it lessens our chances of getting a supply of milk in the future. 670,373 lbs. of milk were received in all as compared with 544,109 the year previous.

Comparatively little has been spent within the last few years for keeping up our building and equipment since the matter of providing better

accommodation for the School has been under discussion. The time has now come however, when the very existence of the School seems to depend upon better provision being made. Our present building is small, unhygienic and over-crowded, and no longer suitable for our growing work. All over Eastern Ontario better dairy buildings are being erected and old ones are being improved. With better facilities at the School for imparting instruction our dairying interests will be better served and all classes will be benefited. I feel confident that our needs will be recognized, and that we shall be placed in a better position to meet the urgent and growing demands for instruction in the art and theory of dairying.

J. W. HART, Superintendent.

WESTERN DAIRY SCHOOL, STRATHROY.

G. C. CREELMAN, M.S., Toronto ..... Director
ARCHIBALD SMITH ..... Superintendent
JAMES BRISTOW ..... Instructor in Cheesemaking
FRANK HERNS ..... " in Milk-Testing
FRED. SMITH ..... " in Buttermaking
D. D. MCMILLAN ..... " in Cream Separators
JOHN A. MCINTYRE ..... " in Home Dairy
T. D. BARRY ..... Engineer
MRS. E. M. TORRANCE ..... Teacher Domestic Science
H. A. STEVENSON, M.D. ..... Bacteriologist
J. P. WHITEHEAD, V.S. ..... Veterinary Science

The Western Dairy School re-opened on Dec. 4th, for Special Creamery Course of three weeks for those who could not attend regular sessions of the Dairy School, and for those who wished to specialize in buttermaking.

The number of students in attendance at the School this year was fifty-nine. A thorough and practical training was given in cheesemaking, buttermaking milk testing, operating cream separators and in all branches of home dairy work.

A special training was also given in care and management of boilers and engines (for which purpose a separate engine is provided), also piping, plumbing, repairing valves, tinsmithing, etc.

Special attention was given to the pasteurization of milk and cream, more especially sour cream, as received at cream-gathered creameries. These experiments were very beneficial, and proved of much interest to the students. A new laboratory was fitted up with the latest and best appliances for the study of Bacteriology and Chemistry. A course of lectures on Veterinary Science was also given.

For two months a course of instruction in Domestic Science was given by Mrs. E. M. Torrance. On account of the success of last year's class separate r oms were fitted with all the appliances necessary for a scientific and practical training along this line. The course included lectures, demonstrations and practical work on the most important subjects in relation to household economy. Special classes were formed on Saturday for the school girls.

The usual conventions of farmers and dairymen which have been so popular here in the past were continued this year, and proved as great a success as before. Good positions and factories were secured for all the students and many more could have been placed in good situations.

ARCHIBALD SMITH, Superintendent.

ANNUAL REPORTS

OF THE

LIVE STOCK ASSOCIATIONS

OF THE

PROVINCE OF ONTARIO,

1902.

DOMINION CATTLE BREEDERS' ASSOCIATION.
DOMINION SHEEP BREEDERS' ASSOCIATION.
DOMINION SWINE BREEDERS' ASSOCIATION
ONTARIO POULTRY ASSOCIATIONS.

PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO.)

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO:
PRINTED BY L. K. CAMERON,
Printer to the King's Most Excellent Majesty.
1903.

WARWICK BRO'S & RUTTER, Printers.
TORONTO.

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DOMINION CATTLE, SHEEP AND SWINE-BREEDERS ASSOCIATIONS.

REPORT OF THE SECRETARY.

The following report was read at the annual meetings January 29th and 30th, 1903:

AUCTION SALES. The sales of 1902 were held in February, at Guelph and Ottawa. The animals for each of these sales were inspected, with a result that the average was considerably better than at the sales held in February, 1901.

Ottawa.

1901, 15 males were sold, the average was $76.90.
16 females " " 120.94.
The number of Shorthorns sold was 20 males, the average was $135.75.
10 females " " 140.00.
Total number of Shorthorns sold 30, the average was $137.17.
1902, 35 males were sold, the average was $69.91.
34 females " " 62.44.
The number of Shorthorns sold was 27 males, the average was $80.59.
" " " " 18 females, " " 86.67.
Total " " " 45, the average was $83.02.

Guelph.

1901, 108 males were sold, the average was $77.36.
39 females " " " 76.67.
The number of Shorthorns sold was 98 males, the average was $78.23.
" " " " " 24 females, " " 92.33.
Total number of Shorthorns sold 122, the average was $81.00.
1902, 74 males were sold, the average was $ 97.84.
32 females " " " 108.84.
The number of Shorthorns sold was 73 males, the average was $98.15.
" " " " " 32 females, the average was 108.84.
Total " " " " 105, the average was $101.43.

At the coming sales, to be held at Ottawa and Guelph, it was decided that males only should be offered for sale—50 males for Ottawa and 80 males for Guelph. The animals for the sales this year have all been inspected, and the inspectors report that they are a much better class of animals than have heretofore been offered. Catalogues may be procured upon application.

MODEL PRIZE LIST. At the last annual meeting committees were appointed to prepare for recommendation to the Canadian Fairs Association a model prize list and rules for live stock for county and township fairs. These committees met and prepared a model list, and afterwards met with the Executive of the Canadian Fairs Association, and recommended the adoption of the same. The result was that the list and rules, as recommended, was adopted by a great many of the local fair associations throughout the Province at the past fall fairs. This, together with the system of expert judges, has induced a higher class of stock to be exhibited, and better work being done in the judge ring, while the educational value of the exhibition has been much increased.

During the past year forty cars of stock have been shipped to the West and to the East. The Association cars shipped to the West have perhaps done more to help the sale of individual animals than any other one thing. Every

endeavor is made to make these cars of as much assistance as possible, and to make them as convenient as can be for both buyers and sellers.

Winter Fair. The Winter Fair of 1902 far surpassed any of the fairs previously held. The building, owing to the extra amount of space, was much more comfortable, and allowed considerably more room for the judging rings, stock pens, and poultry.

The great trouble now appears to be the accommodation for people attending the exhibition. There is one thing we may depend on, and that is no matter how good we may make the exhibition, or how practical the educational features may be, we cannot expect large numbers to continue attending unless we can provide good accommodation for the people when they come to Guelph. Arrangements might perhaps be made with the railway companies to run special trains to some of the near-by towns at a low rate, leaving Guelph late at night and returning early in the morning. This would enable a large number to get good accommodation.

Following are some figures regarding the exhibition :

Date.	Place.	No. of entries.	Entry fees.	Total paid in premiums.	Gate receipts.
			$ c.	$ c.	$ c.
*1899	London	844	737 00	4,159 00	303 10
1901	Guelph	3,461	2,114 75	6,870 50	1,761 00
1902	Guelph	3,945	2,118 00	7,750 00	1,860 45

* No live poultry shown in 1899.

A full report of the meetings and lectures will be published in the annual report of the Live Stock Associations.

An Eastern Fair. At the last session of the Legislature $4,000 was appropriated for holding a combined live stock and poultry show in the Eastern part of the Province. It was felt that there was room for two shows in the Province, and that owing to the expense of coming from one end of the Province to the other a large number in the East did not receive the benefit which they might do if a show were held more in their immediate district. It is intended that this exhibition should be conducted along practically the same lines as the exhibition at Guelph.

The following is a letter received from the Minister of Agriculture for Ontario as to how the management of this exhibition should be appointed :

Toronto, January, 1903.

Dear Sir,—

Referring to the Eastern Live Stock Exhibition, which is to be held at Ottawa, as this is an Eastern Exhibition, I think that the Executive Committee should be composed of persons residing in the Eastern part of the Province. I think, however, that the President of each of the Dominion Cattle, Sheep, and Swine Breeders' Associations should be one of the representatives on the Executive Committee, and that the other representatives from each of the Associations should be members of the Associations residing in the Eastern part of the Province. The Executive Committee would then be composed of three representatives from the Eastern Ontario Poultry Association, three members from the Dominion Cattle Breeders' Association, three members from the Dominion Sheep Breeders' Association, and three members from the Dominion Swine Breeders' Association. The two members of each Association, apart from the President, should, I think, be apointed at the annual meeting, the same as is done in the case of representatives on the Winter Fair Board at Guelph, which has worked out quite satisfactorily.

The above should form the basis of the constitution for the management of this Eastern Exhibition. For the coming show, in addition to the Presidents of the Association, the other members could perhaps be elected at a meeting of the breeders interested in the exhibition, which I understand is to be held at an early date.

The committee of management appointed at their meeting would be for the exhibition following the one to be held on February 10th to 14th, 1903. This committee should be given authority to enter into any agreements necessary with regard to accommodation, etc., for holding the exhibition permanently.

INTER-PROVINCIAL TRADE. I was instructed to make a trip through the western part of Canada and I wish to draw attention to some impressions made as to the possibilities of trade with that country, and to place before you some of the plans by which this trade can be successfully extended. There is, no doubt, a large opening for trade in the Western country, but it will require careful looking after. The difficulty, of course, is the long distance from Ontario, which in a great many cases, precluded the possibility of a personal inspection of our stock. What I tried to impress on the stockmen, with whom I came in contact, was that the Live Stock Associations would undertake to look after the selection and purchase of the stock in Ontario. I explained further that the Associations were under the auspices of the Department, and that we realized the necessity of sending out nothing but the very best stock to be got for the money provided. If the Live Stock Associations are to make a success of this work it is necessary that we obtain the confidence of the people in the West and keep it.

What I would suggest is to have an organization in the West composed of agents who will look after our interests, procure orders and attend to any necessary work out there. Then we should also have something similar here in the East for buying, and get the whole work on a systematic basis. Now that the work in this direction is assuming large proportions, it is absolutely necessary that systematic arrangements be made. There should be some person appointed in each section of Ontario to do the buying in that district. I think there should be one person for every forty or fifty miles; that is, one man would do the buying within a radius of twenty miles. Within that space it would be a simple matter for him to keep well in touch with the breeders and live stock men in his district, and it would be easy to distribute an order for say fifty bulls over ten different sections.

As said before it is absolutely necessary that we get and retain the confidence of those for whom we are buying. We then must have good buyers and good judges of live stock. In order to assist this matter and to encourage confidence in the work, the Department of Agriculture has undertaken to nominate persons in the East to look after the work of selection.

Respecting the appointment of Agents in the West to commence with, I would have agents appointed at Maple Creek, Medicine Hat, Calgary, Lacombe, Strathcona, Edmonton, McLeod and Lethbridge. Next season we could probably increase the number. At some of these points there are local live stock associations whose business it is to look after the local live stock interests. Wherever there is one of these I would work through the society. Everyone of the officers of these societies whom I say were quite willing to take up the work, and were quite strongly of the opinion that much good could be done in the districts through the introduction of a better class of stock. It appeared to be about what a good many were looking for, as there seemed to be no satisfactory way of procuring suitable stock, as they became wholly dependent on what might happen to be shipped for sale into the district. Where there is no society we would need some good representative in whom the people in the district would have confidence. Whether we work through a society or private individuals it will be necessary to provide some remuneration for the person who does the work.

Arrangements have been made for financing the money required for orders. Where an order is received the would-be purchaser will require to make arrangements with the Bank regarding payment for stock ordered, and the Bank will

then guarantee payment to us without recourse to the associations. They have issued circulars giving instructions to all their branches in the West, a large number having been opened up during the past summer. This will doubtless assist us to some extent, as these bankers will take some interest in the work owing to its being to their advantage to have the orders go through. Especially will this hold in the case of settlers coming into the country, as they are now doing in large numbers from the States. The tendency, of course, with these people will be to purchase in the States, but a man on the ground will be able to do considerable missionary work and secure the orders for our associations.

In addition to the agents appointed, I believe it would be well to place an advertisement in the local papers throughout the West, and the cost would be about $600. This would be quite a sum of money, but if we are to get this trade we will have to let the Western people know what we are prepared to do.

How are the various expenses in connection with the work to be met? (1) As to remuneration and expenses of buyers in the East. (2) Remuneration of agents in the West. (3) Advertising in the Western papers. In the first place as the work is to be conducted in the interests of the Ontario breeder, he is the man who will have to bear the expenses. The buyer could reasonably be asked to pay any travelling expenses incurred, and all expenses of a like sort. At the public auction sales 5 per cent. is deducted from the selling price of an animal; and in addition there is the freight charges to the sale besides the expenses of an attendant. I do not see, therefore, that it is unreasonable, or that any objection should be made to deducting 5 per cent. from the price of an animal when sold through the association privately instead of by auction. I would pay 2½ per cent to our buyer and 2½ per cent. to the agent who secured the order. With respect to advertising, this should be paid out of a general fund, and I would advise to make it up out of the membership fees, and to make these sufficiently large to cover such expenses. This would be perhaps $2 or $3. If this were done I would buy only from members of the Association unless the order could not be filled without going outside the membership.

Since visiting the West I am firmly convinced that there is a big opening for trade in breeding cattle, horses, and swine, and in stocker cattle. I am not so well pleased with the outlook for sheep. There is not the enthusiasm respecting the sheep industry in Western Canada at present that is apparent in other lines. I believe if anything is to be done respecting our sheep trade we will have to look to the Western States, and I think some steps should be taken in this direction. Some poor lots of Ontario stockers have at different times been sold in the West, and have done considerable damage to our reputation. If we can supply the ranchers and breeders with what they want we should have no difficulty in selling all that we can produce in this or in other lines. In some sections there is quite a prejudice in favor of Heresford bulls, and in the horse line for Percheron horses. The horse business especially will require watching. Some American dealers are looking sharply after this business. Other places are also in the field to a limited extent, and they will doubtless try to extend their trade from time to time in all kinds of stock.

One thing I am firmly impressed with, and that is the importance of supplying them with good value for their money, and so dealing with them that they will have entire confidence in our work. This is a necessity.

While I have mentioned here only the work in the West, as early as possible similar work should be taken up with the Maritime Provinces, and there is no reason, with the organization at our disposal, why we should not undertake work in the future in other places besides the Dominion of Canada. In the meantime our organization for this work should be perfected and got on to a practical basis.

A. P. WESTERVELT,

DOMINION CATTLE BREEDERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Dominion Cattle Breeders' Association was held in the Palmer House, Toronto, January 29th, 1903, at 11.30 p.m. President Arthur Johnston in the chair.

The minutes of the last annual meeting were read and adopted.

The Annual Report and Financial Statement were then read by the Secretary-Treasurer, and on motion it was resolved: "That they be adopted as amended."

The President, in the course of a few remarks, said: "It is not necessary to convince anybody of the utility or absolute necessity of this association. I think we may fairly congratulate ourselves in having held an exceedingly successful exhibition at Guelph, and we may also congratulate ourselves upon the success of every scheme intended at the inauguration of the Cattle Breeders' Association as well as the other associations. We nowadays have far more business than we used to have and far less flourishes."

Messrs. Gibson and McGillivray complimented the Secretary on his able report, and the latter said he could endorse almost every word he said in connection with his impressions of the Western country. What surprised him most when he was out there was the fact that one would find great ranches with a hundred thousand animals in and not a single pure-bred bull amongst them.

Resolutions.

On motion it was resolved: "That the gentlemen who have already been nominated by the different associations, and those who are yet to be named by the other associations, be the Directors of this Association.

Moved, "That the Eastern Exhibition Committee be composed of the following gentlemen: The President, J. G. Clark and N. F. Wilson."—Carried.

Moved, "That the names of the members of the Sale Committee be left in the hands of the Executive Committee, and that the nomination of judges be left in the hands of the Executive of the Winter Fair."—Carried.

Moved and seconded, "That a grant of $50 be made towards paying the wages of a man in charge of the Association car."—Carried.

New Business.

Moved by J. M. Gardhouse, seconded by William Linton, "That the Dominion Cattle Breeders' Association notes with satisfaction the marked progress made during the past year by the Industrial Exhibition Association of Toronto, as regards new buildings, improved accommodation for exhibitors, and the character of the exhibition generally. We also wish to place upon record our appreciation of the public spirit and liberality of the citizens of Toronto in providing funds for the erection of the new Butter, Cheese, and Dairy Building, the new Art Gallery, the new Manufacturers, and Women's Buildings, and trust that no time will be lost by the City Council in pushing forward to completion the new Manufacturers' Building, Women's Building and other contemplated improvements. We cordially approve of the proposed Dominion Exhibition to

be held at Toronto in 1903, and pledge our support and assistance to the Board of Directors of the Industrial Exhibition Association in helping them to carry such an exhibition to a successful issue, and also to aid them in securing the recognition of the Dominion Government and the procuring of sufficient grants from the Dominion and Local Governments to enable them to make the proposed exhibition a complete success."—Carried.

Moved, "That our Association make a grant of such amount as will be one-third of what is required to make up the $300 necessary to complete the $600 required for advertising in the North-west."—Carried.

Amendment of Rules and Regulations.

Col. McGillivray suggested that a committee of four or five be appointed and given power to amend the sections of the constitution relating to rules and regulations bearing upon frauds in the show ring.

The President, Vice-President, Col. McGillivray, and the Secretary were appointed a committee to act in the matter with power to add to their number."

Moved, "That this Association endorses the action taken by its appointed officers in connection with this matter of frauds at the Winter Fair, and that they extend their approval of what they have done, and commend their action in the matter, and accept the responsibility."—Carried.

Mr. J. L. Jones complained of the inconvenience exhibitors at the Industrial were put to on account of the Grand Trunk not having a sufficiently large platform, where the animals were loaded, to accommodate them.

Moved, "That this meeting respectfully ask the Industrial Exhibition to request the Grand Trunk Railway to make a longer platform for the accommodation of exhibitors loading and unloading animals at the Industrial Exhibition."—Carried.

The matter of hotel accommodation for those attending the Provincial Winter Fair at Guelph was discussed, and it was the opinion of the meeting it was entirely inadequate, and that representatives of the Winter Fair should try and induce as many as possible to stop at private boarding houses while attending this Show.

The meeting then adjourned.

OFFICERS FOR 1903.

President	Arthur Johnston	Greenwood.
Vice-President	A. W. Smith	Maple Lodge.
Secretary-Treasurer	A. P. Westervelt	Toronto.

Vice-Presidents (representing the different Provinces.)

Ontario	H. Wade	Toronto.
Manitoba	Hon. Thos. Greenway	Crystal City.
Northwest Territories	C. W. Peterson	Regina, Assa.
Quebec	H. D. Smith	Compton, Que.
Nova Scotia	E. B. Elderkin	Amherst, N.S.
New Brunswick	T. A. Peters	Fredericton, N.B.
British Columbia	G. H. Hadwen	Duncan's, B.C.
Prince Edward Island	F. G. Bovyer	Georgetown, P.E.I.
Newfoundland	Hon. Thos. C. Duder	St. John's, N'd.

Directors :

Shorthorns—T. E. Robson, Ilderton, and John Isaac, Markham.
Herefords—W. K. Gooding, Guelph, and W. H. Hunter, The Maples.
Ayrshires—W. W. Ballantyne, Stratford ; H. Wade, Toronto,
Holstein-Friesian—H. Bollert, Cassel, and G. W. Clemons, St. George.
Polled Angus—Jas. Bowman, Guelph, and J. W. Burt, Coningsby.
Galloways—R. Shaw, Brantford, and D. McCrae, Guelph.
Jerseys—J. L. Clark, Norval, Geo. Davies, Todmorden.
Ontario Agricultural College—G. E. Day, Guelph.
General Director—J. M. Gardhouse, Highfield, Ont.
Dominion Live Stock Commissioner—F. W. Hodson, Ottawa.

Auditor—J. M. Duff, Guelph.

Delegates to Fair Boards :

Toronto.....J. A. McGillivray, Uxbridge, and A. P. Westervelt, Toronto.
Ottawa .....N. F. Wilson, Cumberland, and F. W. Hodson, Ottawa.
London .....R. Gibson, Delaware ; Capt. T. E. Robson, Ilderton.
Brantford .....G. W. Clemons, St. George ; J. R. Alexander, Brantford.
Provincial Winter Fair—G. W. Clemons, St. George ; J. T. Gibson, Denfield, and John Bright, Myrtle.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1902.

Receipts.

Cash on hand	$12 13	
Members' fees	833 50	
Legislative grant	2,000 00	
Total		$2,845 63

Expenditure.

Grant to Provincial Winter Fair	$1,971 04	
Officers' Salaries and Directors' Expenses	429 83	
Postage, Stationery and Office Supplies	121 07	
Printing	74 05	
Typewriting and Office Work	415 47	
Cost of Reporting	4 00	
Periodicals for Members	128 28	
Telegraph, Telephone, Express, Exchange, etc	54 17	
Wages for man in charge of Stock Cars	50 00	
Auditor, 1901	5 00	
Sundries	4 30	
To balance due Treasurer		371 58
	$3,217 21	$3,217 21

Audited and found correct,

J. M. Duff,
Auditor.

Arthur Johnston,
President.

A. P. Westervelt,
Treasurer.

Toronto, January 28th, 1903.

N.B.—During 1901 and 1902, $200 was contributed by the Dominion Shorthorn Breeders' Associatio for the wages of a man in charge of stock cars.

MEMBERS OF THE DOMINION CATTLE BREEDERS' ASSOCIATION, 1902 AND 1903

Name and Address.	*Breed.*
Aitchison, W., Guelph	
Armstrong, M., Tillsonburg	Holstein-Friesian
Arnold, J.B., Easton's Corners.	"
Acres, J. G., Vernon.	"
Anderson, Thos., Lyn	"
Adams, Ed., Carlton West	"
Armstrong, Wm., Locust Hill.	"
Baxter, A. B., Hamilton	Shorthorn.
Brien & Sons, E., Ridgetown.	"
Bonnycastle, F., Campbellford.	"
Bowman, Jas., Guelph	P. Angus.
Brown, John, Galt	Hereford.
Bull, L. J. C., Brampton	Jersey.
Bull & Son, B.H., Brampton.	"
Barns, S. D., Birnam	Holstein-Friesian
Bollert, H., Cassel	"
Brown, W. W., Lyn	"
Bald, Adam M., Sebringville.	"
Bullard, B., Plum Hollow	"
Baird, Chas., Motherwell	"
Beck, S. R., South Cayuga	"
Brown, D. H, Kelso, Que.	"
Bonsall, H., Chemainus, B.C.	"
Bell, Jas. R, Athelstan, Que.	"
Brown, F. L., Kelso, Que.	"
Beemer, John, St. George	"
Burt, J. W., Coningsby	P. Angus.
Chapman & Sons, J. G. St. Thomas	Shorthorn.
Cameron, J. W., Perth	"
Central Exp. Farm, Ottawa	
Cook, Cornelius, Guelph	Grades.
Clark, J. L, Norval	Jersey.
Clark, H. G., Brampton	"
Clarkson, John, Summerville	Holstein-Friesian
Carlaw, Thos. B., Warkworth.	"
Clemons, G. W., St. George.	"
Charlton, T. W., St. George.	"
Came, F.E, Temple Building, Montreal	"
Craik, R., Montreal, Que.	"
Cohoe, J. W., New Durham.	"
Caskey, Jas. A., Madoc	"
Cameron, Andrew, Westwood.	"
Conner, John, Ganancque	"
Dent, T. H, Woodstock	
Dingle, J. H., Hamilton	
Douglas, Jas., Caledonia	Shorthorn.
Dundas, Jas., Quebec	Ayrshires.
Davies, Geo., Todmorden	Jersey.
Duncan, David, Don	"
Duncan, Ernest, Don	"
Dundon, John, St. Roch., Que	Holstein-Friesian
Duncan, W. A., Emery	"
Davidson, T., Spring Valley.	"
Dore, W. O., Trout Creek	"
Dougherty, J. W., New Durham	"
Daniel, Burt, St. George	"
Dundon, John, Quebec.	Ayrshires.
Edes, P. D., Oxford Centre	
Edwards, John, Algonquin	Holstein-Friesian
Ellis, Wm. G., Bedford Park.	"
Fried, John, Roseville	Shorthorn.
Fleming, R. J., Toronto	Jersey.
Fletcher, Jos., Oxford Mills.	Holstein-Friesian
Flack, Sam'l, Red Deer, Alta.	"
Ferlan, Jos. B., Three Rivers, Que	"

Name and Address.	*Breed*
Foxton, Rich., New Dublin	Holstein-Friesian
Fargey, Peter, Belleville	"
Grainger, Wm. & Son, Londesboro	Shorthorn.
Gardhouse, J. M., Weston	"
Green, Jas, Fergus	"
Green, F. L., Greenwood	Jersey.
Goodall, Gavin, Galt	"
Gies, C R, Heidelburg	Holstein-Friesian
Glennie, Jas., Longburn, Man.	"
Gilroy, C. J, Glen Buell	"
Gilroy, G. A., Glen Buell	"
Gifford. A., Meaford.	"
Glass, Geo. C., Sweetsburg, Que.	"
George, H. E., Crampton	"
Hall, Walter, Washington	P. Angus.
Hales, Alf., Guelph	Durhams.
Harper, Sam., Cobourg	Devons.
Hood, G. B., Guelph	Grades.
Hinman, E. B., Grafton	Jersey.
Hartley, H.Y., New Durham.	Holstein-Friesian
Hopps, Jno., Campbellford	"
Hubbs, Louis P., Hillier	"
Hartley, Thos., Norwich	"
Honey, Rich., Brickley.	"
Hallman, A.C., New Dundee.	"
Hawse, Wm., Athens	"
Hoover, A., Jr, Woodbridge.	"
Jackson, A. F., Downsview	Jersey.
Johnston, Wesley, Chesterville, Ont	Holstein-Friesian
Jones, M. J., Villa Nova	"
Ketchen, J. B., Coleman	Jersey.
Kincaid, C. A., Plum Hollow,	Holstein-Friesian
Kennedy, A., Ayr	"
Latsch, Geo., Freeport	Jersey.
Leslie & Pearn, Acton	Shorthorns.
Lawson, J. A., Nilestown	Jersey.
Loucks, J.E., Frankville	Holstein-Friesian
Laing, Thos., Eburne, B.C.	"
Lint, John, W., Attercliffe Station	"
Logan, Lorne H., Amherst Point, N. S.	"
Logan, S., Amherst Point, N.S.	"
MacIntyre, Arch., Manilla	
MacIntyre, G., Renfrew	Holstein-Friesian
Macklin, S., Streetsville	"
Macklin, C., Centreton	"
McNeil, C. A., Gananoque	"
McDonald, Peter A., Ormond.	"
McCrae, J. L., Brockville	"
Moorhead, J.G., Ventnor	"
Mittlefehldt, A., Elcho	"
McCuaig, M, Vankleek Hill	"
Mallory, B., Frankford	"
McGregor, J., Constance	"
Mooney, I. W., Inverness, Que.	Shorthorns.
McMillan, T., Seaforth	"
McQueen, Jas., Elora	"
McDougall, A., Guelph	P. Angus.
McDairmid, D.R., Ridgetown.	Shorthorns.
North, Geo., Marden	Holstein-Friesian
Newlands, Wm., Eburne, B.C.	"
O'Brien, John, London West	Jersey.
O'Mahony, D., Renton	Holstein-Friesian
Ontario Agri. College, Guelph.	"
Peters, O. J., Moncton, N. B.	"

Name and Address.	*Breed.*
Princip'l Indian Indus. School, Red Deer, Alta	Holstein-Friesian
Palmer, B. J., New Durham,	"
Patten, J. H., Paris	"
Page, H. T., Misson, B. C.	"
Potter, A. B., Montgomery, Assa.	"
Park, Henry, Oxford Centre	"
Parkinson, G.& W., Eramosa.	Short. & Grades.
Phillips, F. W., Oakville	P. Angus.
Poole, Wm., Newboro	
Reid, R., Berlin	Jersey.
Richardson, J. W., Caledonia.	Holstein-Friesian
Rowntree, W. H., Thistletown	
Richardson, J. A., S. March	"
Reece, Jonathan, Chilliwack, B. C	"
Robertson, J. W., Vankleek Hill	"
Richardson, Matt., Caledonia,	"
Rettie, James, Norwich	"
Rife, David, Hespeler	"
Reesor, F.E.N., Locust Hill	"
Rosebrugh, Jas., St. George	"
Rudd, W. J., Eden Mills	Devons.
Shunk, Simon, Edgely	Holstein-Friesian
Smith, J. H., Highfield	Jersey.
Scott, Thos, Glen Morris	"
Stauffer, Francis, Washington	Holstein-Friesian
Smith, S E., Dundas	"
Stewart, Hugh, Ormond	"
Shunk, Wm., Sherwood	"
Smith, C. H. Athens	"
Smith, A. C., Paris	"
Simmons, W. H., New Durham	"
Steves, J. M., Steveston, B.C.	"
Schell, Walter, S., Woodstock,	"
Stewart, John, W, Lyn	Holstein-Friesian
Scatcherd, Edwin, Wyton	"
Sweet Ogden, North Sutton, Que	"
Sangster, Neil, Ormstown, Que	"
Stevenson, R S., Ancaster	"
Sharp, Jas., Rockside	P. Angus.
Shaw & Marstin, Brantford	Galloways.
Sherwood, T., Fergus	Shorthorn.
Stewart, Arch., Ailsa Craig	Grades.
Stewart, Duncan, Weston	"
Snell, George, Yeovil	Shorthorn.
Smith, J. C., Hintonburg	Ayrshire.
Smith, A. W., Maple Lodge	Shorthorn.
Smith, J. J., Enniskillen	"
Silcox, Edgar, Shedden	"
Scott, F. W., Highgate	"
Scott, Chas., Arkell	Grades.
Scott, Jno. W., Austin, Man.	Shorthorns.
Taylor, F.W., Wellman's Cor	Ayrshires.
Tufts & Son, R., Tweed	Jersey.
Tillson Estate, E. D., Tillsonburg	Holstein-Friesian
Tannihill, John, White's Station, Que	"
Telfer, Thos, Ingersoll	"
Wyckoff, I. J, Tyrell	"
Willis, R., Jr., Glen Meyer	"
Walker, R W., Utica	"
Wylie, Jas.H., Almonte	"
Welsh, Henry, Weston	"
Wooley, A, Springfield	"
Wolf, Michael, Gourock	
Young, S., Guelph	P. Angus & Short.

Members of the following Associations are members of the Dominion Cattle Breeders' Association :— Shorthorn Breeders' Association, Ayrshire Breeders' Association, Holstein-Friesian Association, Hereford Breeders' Association, Galloway Association, Jersey Association, Polled Angus Association.

DOMINION SHEEP BREEDERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Dominion Sheep Breeders' Association was held in the Palmer House, Toronto, January 30th, 1903, at 9.30 a.m., the President, Mr. R. H. Harding, in the chair. The minutes of the last meeting were accepted as read

PRESIDENT'S ADDRESS.

By R. H. Harding, Thorndale.

It is with the greatest pleasure that I welcome you to this another annual meeting of the Dominion Sheep Breeders' Association. We have been favored with one of the most successful years, financially, in our history. A goodly portion of this success we must credit to the golden hoof. We have not experienced anything of a boom in this particular line of stock during the past year, but I think the most of you will agree with me that anything you had for sale of first-class quality, you had no trouble to find a market for, and at remunerative prices. The expert judging system that is being put into effect by the Superintendent of Fairs is very likely to stimulate a greater home demand for a better quality of stock than has usually been looked for, for local fairs. By preparing to meet this demand we will not only better our own condition, but we shall be instrumental in raising the sheep standard of Canada still higher. Booms, to my mind, are an indirect injury, especially to the sheep breeder of Canada—as this is an acknowledged centre for producing high class breeding stock—because when there is a keen demand and prices are high there is a temptation to dispose of stock for breeding that should not be sold for that purpose, and that is not a standing advertisement for our good. If we are to continue to hold the reputation that we now have and continue to be the centre of attraction to outsiders in search of high class sheep, we must still closer cull out the undesirable ones for the butcher, and breed from nothing but the best, ship none but what we are sorry to part with, and put all the energy we have into the sheep industry. We should strive to produce the very best of the breed of our choice, rather than try to breed two or more breeds and make a partial success or perhaps a failure of the business, There is an old maxim, "Whatever is worth doing, is worth doing well." This is applicable to the sheep breeding industry.

Allow me to congratulate you upon the success you attained at the Chicago International Exposition, and at other large exhibitions, in competition with the best the world could produce. This goes to prove that you still have some of the best, and have not forgotten how to put them into proper winning form.

We sometimes hear the following or similar remarks from visitors to the exhibitions : " Oh, I have sheep at home that could win, hands down, against anything here." To such ones I would say, fit up a few for the shows. The older exhibitors will welcome you, and you will probably win, too ; but if you do not you may get relieved of some surplus conceit that you had along that line, and even that will do you good. The sheep business, or in fact any business, might well be compared to a ladder, with comparatively few breeders at the top—a few climbing the ladder and a great number seemingly satisfied to remain at the bottom. This should not be the case. I presume there are none of the

latter class in this association. If there are I would say to them : Do not be satisfied there ; yours is a noble and profitable calling, and the higher up the adder you get as a breeder of high class sheep the greater are your possibilities.

The Secretary-Treasurer then read his annual report and financial statement, and on motion it was adopted.

EXPERT JUDGES.

The following expert judges were then nominated :

COTSWOLDS : John Rawlings, Ravenswood ; William Thompson, Uxbridge ; Val. Ficht, Oriel; Jas. Hume, Arkell; W. G. Laidlaw, Wilton Grove; R. P. Snell, Snelgrove ; Wm. Linton, Aurora ; S. J. Lyons, Norval ; Jas. Russell, Richmond Hill ; J. C. Snell, London ; F. Bonnycastle, Campbellford ; John Park, Burgessville ; J. Hardy Shore, Glanworth ; A. J. Watson, Castlederg ; Prof. G. E. Day, Guelph; John V. Snell, Snelgrove. Judges nominated: Toronto—Robert Miller, Stouffville; James Hume, Arkell. London—Val. Ficht, Oriel; John V. Snell, Snelgrove. Ottawa—Val. Ficht, Oriel ; A. Thompson, Uxbridge. Chicago—Prof. Curtiss, Ames, Ia., U.S. ; Prof. Day, Guelph ; R. P. Snell, Snelgrove.

LEICESTERS : R. J. Garbutt, Belleville ; Jas. Fennell, Bradford ; H. B. Jeffs, Bond Head ; A. E. Archer, Warwick ; Geo. Whitelaw, Guelph ; Hardy Shore, Glanworth ; Abraham Easton, Appleby ; E. Wood, Appleby ; Wm. Parkinson, Eramosa ; E. Parkinson, Eramosa ; John Orr, Galt ; Wm. Watt, Salem ; Wm. McIntosh, Burgoyne ; Thos. Currelly, Fullarton ; R. Eastwood, Mimico : John Kelly, Shakespeare ; And. Thompson, Fergus ; J. K. Campbell, Palmerston ; J. C. Snell, London ; G. B. Armstrong, Teeswater ; John Gibson, Denfield ; C. E. Wood, Freeman ; Jos. Gaunt, St. Helens ; J. M. Gardhouse, Weston ; And. Whitelaw, Guelph ; Wm. Whitelaw, Guelph ; R. C. Martin, Marysville ; Alex. Smith, Maple Lodge ; Walter Nichol, Plattsville ; H. G. Arnold, Maidstone ; Prof. Craig, Ames, Ia. ; John Marshall, Cass City, Mich. ; J. W. Murphy, Cass City, Mich. ; Prof. Curtiss, Ames, Ia. ; Geo. Penhale, Exeter ; Jas. Snell, Clinton ; Prof. Day, Guelph ; M. Kennedy, Northwood ; D. Lillico, Ayr ; Jas. Douglas, Caledonia. Judges nominated : Toronto—James Douglas, Caledonia ; C. E. Wood, Freeman, reserve. London—T. Hardy Shore. Ottawa—Prof. Day. Brantford—Wm. Whitelaw.

DORSETS : John Kelly, Shakespeare ; Robert Miller, Stouffville ; J. M. Gardhouse, Weston ; John Campbell, Fairview ; J. G. Hanmer, Mount Vernon ; Prof. Curtiss, Ames, Ia. ; Thos. W. Hector, Springfield-on-the-Credit ; G. P. Everett, Mt. Vernon ; John A. McGillivray, Uxbridge ; H. N. Gibson, Delaware ; E. O. Denton, Somerset, N.Y. ; G. McKerrow, Sussex, Wis. ; John Hunter, Wyoming ; Herbert Hanmer, Burford ; A. Danks, Allamuchy, N.J. ; John Jackson, Abingdon ; Fred Silversides, Uxbridge ; R. H. Harding, Thorndale. Judges nominated : Toronto—John Kelly, Shakespeare ; John Jackson, Abingdon. London—J. G. Hanmer, Mt. Vernon ; J. M. Gardhouse, Weston, reserve.

SOUTHDOWNS : John Jackson, Abingdon ; Wm. Martin, Binbrook ; W. H. Beattie, Wilton Grove ; W. H. Gibson, Beaconsfield ; N. H. Gibson, Delaware ; T. C. Douglass, Galt ; A. Simenton, Blackwater ; H. B. Jeffs, Bond Head ; Geo. Telfer, Paris ; J. G. Hanmer, Mt. Vernon ; J. Smith, Mt. Vernon ; Jas. Scott, Aberfoyle ; J. C. Duncan, Lewiston, N.Y. ; Col. R. McEwen, Byron.

OXFORDS: Prof. G. E. Day, Guelph; John Harcourt, St. Ann's; Smith Evans, Gourock; Jas. Tolton, Walkerton; R. J. Hine, Dutton; Kenneth Finlayson, Campbellton; Henry Arkell, Arkell; William Dickson, Mildmay; Peter Arkell, Teeswater; J. H. Jull, Mount Vernon; W. H. Arkell, Teeswater; John E Cousins, Harriston; Arch. McKenzie, Corwhin; R. E. Birdsall, Birdsall; Geo. McKerrow, Sussex, Wis.; W. A. Shafer, Middleton, Ohio; J. V. Cooper, Picton; Wm. Newman, Cherry Valley; Wm. Arkell, Teeswater; Jas. J. Tolton, Walkerton; L. Parkinson, Greenock; A. Elliott, Pond Mills; D. Brown, Iona; H. N. Gibson, Delaware; W. Lee, Simcoe; Prof. Craig and Prof. Curtiss, Ames, Ia. Judges nominated: Toronto—John Harcourt, St. Ann's; Jas Tolton, Walkerton. London—W. H. Arkell, Teeswater; J. L. Tolton, Walkerton.

HAMPSHIRES AND SUFFOLKS: R. Gibson, Delaware; H. Arkell, Arkell; Prof. J. A. Craig, Ames, Ia.; W. H. Beattie, Wilton Grove; Jas. Bowman, Guelph; Prof. Kennedy, Columbus, Ohio; W. R. Bowman, Mount Forest; John Kelly, Shakespeare; Prof. Shaw, St. Anthony Park, Minn.; Prof. G. E. Day, Guelph. Judges nominated: Toronto—H. N. Gibson, Delaware; Henry Arkell, Arkell, reserve. London—W. H. Beattie, Wilton Grove; R. Gibson, Delaware, reserve.

LINCOLNS: J. T. Gibson, Denfield; J. H. Patrick, Ilderton; Capt. T. E. Robson, Ilderton; R. W. Stevens, Lambeth; Graham Walker, Ilderton; Wm. Oliver, Avonbank; E. Parkinson, Eramosa; J. H. Neil, Lucan; Wm. Mitchell, Glencoe; A. W. Smith, Maple Lodge; J. M. Gardhouse, Weston; J. Snell, Clinton; Hardy Shore, White Oak; Geo. Weeks, Glanworth.

SHROPSHIRES: G. P. Everett, Mt. Vernon; J. Consworth, Paris; W. H. Beattie, Wilton Grove; R. Miller, Stouffville; J. Hanmer, Burford; J. Campbell, Woodville; D. G. Hanmer, Burford; M. Levering, Lafayette, Ind.; A. Elliott, Galt; J. Dickin, Milton West; J. S. Thompson, Case City, Ind.; Geo. Allen, Allerton, Ill.; W. G. Pettit, Freeman; D. J. Campbell, Woodville; G. Phinn, Hespeler; Chas. Calder, Brooklin; H. N. Gibson, Delaware; Geo. Hindmarsh, Ailsa Craig; C. W. Gurney, Paris; W. E. Wright, Glanworth; J. Miller, Brougham; H. Hanmer, Burford; Prof. Curtis, Ames, Ia.; J. G. Duncan, Lewiston, N.Y.; G. McKerrow, Sussex, Wis.; Prof. Day, Guelph; Arthur Barnett, Brooklin; Geo. L. Telfer, Paris; A. W. Smith, Maple Lodge; J. Shields, Caistorville; Geo. Crawford, Minesing. Judges nominated: Toronto Fair—J. C. Duncan, Lewiston, N.Y.; H. N. Gibson, Delaware. London—A. W. Smith, Maple Lodge; William Arkell, Teeswater, reserve: Ottawa—D. G. Hanmer, Mt. Vernon. Winter Fair—J. C. Duncan, Lewiston, N.Y.; Robt. Miller, Stouffville, reserve.

MERINOS: Rock Bailey, Union; And. Terrell, Wooler; G. P. Everett, Mt. Vernon; W. H. Beattie, Wilton Grove; W. M. Smith, Scotland; R. Shaw, Glanford Station; J. G. Hanmer, Mount Vernon; Geo. McKerrow, Sussex, Wis., U.S. Judges nominated: Toronto Industrial—J. C. Duncan, Lewiston, N.Y.; reserve, Geo. Phinn, Hespeler. Western Fair, London—And. Elliott, Galt; reserve, Geo. Hindmarsh, Ailsa Craig. Central Fair, Ottawa—J. W. Barnett, Rockland; Provincial Winter Fair—J. C. Duncan, Lewiston, N.Y.; reserve, Robert Miller, Stouffville.

RESOLUTIONS.

"That the President be one of the representatives for the Eastern Fair from this Association, and that the other two be appointed by the Executive." Carried.

On motion, it was resolved: "That the Executive Committee compose the Winter Sale Committee."

"That the recommendation of expert judges for the different breeds be accepted." Carried.

Moved by Col. McGillivray, seconded by John Campbell, "That the Dominion Sheep Breeders' Association notes with satisfaction the marked progress made during the past year by the Industrial Exhibition Association of Toronto, as regards new buildings, improved accommodation for exhibitors, and the character of the exhibition generally. We also wish to place upon record our appreciation of the public spirit and liberality of the citizens of Toronto in providing funds for the erection of the new Butter, Cheese and Dairy Building, the new Art Gallery, the new Manufacturers' and Women's Building, and trust that no time will be lost by the City Council in pushing forward to completion the new Manufacturers' Building, Women's Building, and other contemplated improvements. We cordially approve of the proposed Dominion Exhibition to be held at Toronto in 1903, and pledge our support and assistance to the Board of Directors of the Industrial Exhibition Association in helping them to carry such an exhibition to a successful issue, and also to aid them in securing the recognition of the Dominion Government, and the procuring of sufficient grants from the Dominion and Local Governments to enable them to make the proposed exhibition a complete success.

"That the above resolution be forwarded to the Industrial Exhibition under the President's and Secretary's signatures." Carried.

"That this Association make a grant of $50 towards the fund, as outlined in the Secretary's report, for advertising in the west." Carried.

On motion, it was resolved: "That the President, Vice-President and Secretary be appointed to act on the joint committee from the different associations with power to take action in regard to the matter of the Agricultural Gazette."

"That J. M. Gardhouse and John Jackson be members of a committee to join with the other committees in amending rules governing frauds in the constitution and by-laws of the Sheep Breeders' Association." Carried.

"That this Association endorses the action of the Provincial Winter Fair Board in dealing with frauds, etc., at the late Winter Fair." Carried.

"That the Executive Committee and Mr. Hodson be a committee to take up the matter of sheep records with Mr. Wade." Carried.

On motion, it was resolved: "That the Executive Committee consider the advisability of looking into the trade in the United States and elsewhere, and that this Association give them power to act."

"That the Toronto Industrial Fair Board be asked to use their influence to induce the Grand Trunk to make a longer platform at the exhibition and also give another entrance, if possible." Carried.

"That we recommend to the Winter Fair Board that all sheep at the Winter Fair, in the pure-bred classes, shall be bred by or born in possession of the exhibitor."

A lengthy discussion took place as to the benefit of having this rule in force, and when the motion was put to the meeting it was lost.

The meeting then adjourned.

OFFICERS FOR 1903.

President ..... R. H. Harding, Thorndale.
Vice-President ..... J. M. Gardhouse, Highfield.
Secretary-Treasurer ..... A. P. Westervelt, Toronto.
Directors:
Cotswolds ..... D. McCrae, Guelph.
Leicesters ..... Andrew Whitelaw, Guelph.
Hampshires and Suffolks ..... John Kelly, Shakespeare.
Dorsets ..... John A. McGillivray, Uxbridge.
Southdowns ..... John Jackson, Abingdon.
Oxfords ..... Jas. Tolton, Walkerton.
Lincolns ..... John Gibson, Denfield.
Merinos ..... W. M. Smith, Scotland.
Shropshires ..... D. G. Hanmer, Mount Vernon.
Ontario Agricultural College ..... G. E. Day, Guelph.
Dominion Live Stock Commissioner ..... F. W. Hodson, Ottawa.
Auditor ..... J. M. Duff, Guelph.
General Director ..... A. W. Smith, Maple Lodge.
Delegates to Fair Boards:
Toronto Industrial ..... J. M. Gardhouse, Highfield, and John Jackson, Abingdon.
Ottawa ..... F. W. Hodson, Ottawa.
London ..... A. W. Smith, Maple Lodge, and A. P. Westervelt, Toronto.
Provincial Winter Fair ..... A. W. Smith, Maple Lodge; John Jackson, Abingdon, and Jas. Tolton, Walkerton.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1902.

Receipts.

Members' Fees	$ 111 00	
Legislative Grant	2,000 00	
Total		$2,111 00

Expenditure.

Balance due Treasurer	$ 508 18	
Grant to Provincial Winter Fair	1,275 00	
Officers' Salaries and Directors' Expenses	445 08	
Postage, Stationery and Printing	182 89	
Typewriting and Office Work	258 48	
Periodicals for Members	128 25	
Telegraph, Telephone, Express, Exchange, etc	34 17	
Auditor, 1901	5 00	
Cost of Reporting	4 00	
Sundries	4 50	
To Balance due Treasurer		734 35
	$2,845 35	$2,845 35

Examined and found correct
this 28th day of January, 1903.

J. M. Duff,
Auditor.

R. H. Harding,
President.

A. P. Westervelt,
Treasurer.

MEMBERS OF THE DOMINION SHEEP BREEDERS' ASSOCIATION, 1902 AND 1903.

Name and address.	Breed.
Allen, Robt. S., Cooper	Cotswolds.
Arkell, Henry, Arkell	Oxford Downs.
Armstrong, G. B., Teeswater	Leicesters.
Barker, S. & Son, Mt. Vernon	Cotswolds.
Blais, A. & J., St. Anne de Prescott	Leicesters
Barbarree, S., Nassagaweya	Oxfords.
Beattie, W. H., Wilton Grove	Shropshires.
Brien & Son, Ridgetown	Cotswolds.
Bonnycastle, F., Campbellford	Cotswolds.
Bowman, Jas., Guelph	Suffolks, Dorsets.
Brown, J. L., Uxbridge	Cotswolds.
Blyth, Chas. R., Marden	
Campbell, John, Woodville	Shropshires.
Clark, J. W., Onondaga	Shropshires.
Came, F. E, St. Andrews, N.B.	Southdowns.
Central Experimental Farm, Ottawa	
Cooper, J. V., Picton	Oxfords.
Cousins & Son, John, Harriston	Oxfords.
Conworth, J., Paris	Shropshires.
Currelly, T. & Son, Fullarton	Leicesters.
Donaldson, Wm., South Zorra	Shropshires.
Douglas, Jas., Caledonia	Leicesters.
Douglas, T. C., Galt	Southdowns.
Drummond, Hon. G. A., Beaconsfield, Que	Southdowns.
Evans, David, Somnos, B C	Southdowns.
Evans, Smith, Gourock	Oxfords.
Edwards, W. C., Rockland	Shropshires.
Everett, G. P., Mt. Vernon	Shropshires.
Elliott & Son, A., Galt	Shropshires.
Finlayson, Kenneth, Campbellton	Oxfords.
Ficht, Val., Oriel	Cotswolds.
Gardhouse, J. M, Weston	Leicesters.
Garbutt, R. J., Belleville	Leicesters.
Gibson, J. T, Denfield	Lincolns.
Gibson, Rich, Delaware	Shropshires.
Gibson, W. H., Beaconsfield, Que	Southdowns.
Gould, Geo. & Son, Rutherford	Lincolns.
Harding, R. H., Thorndale	Dorset Horns.
Hanmer, D. G. & J. G., Mt. Vernon.	Shropshires.
Harper, Sam'l, Cobourg	
Hamil, John & Son, Harwich	Shropshires.
Hindmarsh, Geo., Ailsa Craig	Shropshires.
Hine, R J., Dutton	Oxfords.
Hood, G. B., Guelph	
Hume, Jas., Arkell	Cotswolds.
Hunter, John, Wyoming	Dorsets.
Innes, Donald, Tobique River, N.B.	Shropshires & Cotswolds.
Jackson, John, Abingdon	Southdowns.
Jeffs & Son, E., Bond Head	Southdowns & Leicesters.
Jull, J. H., Mt. Vernon	Oxfords.
Kelly, John, Shakespeare	Hampshires & Leicesters.
Koox, John, Clanbrassil	
Lewis, T. M., Burford	Shropshires.
Lee & Sons, J. W. Simcoe	Oxfords.
Lloyd-Jones, T, Burford	Shropshires.
Maynard, J. T., Chilliwack, B.C	
Martin, Wm., Bi brook	Southdowns.
Martin, E. E., Canning	Southdowns.
Martin, R. G., Marysville	Lincolns.
Malcolm, Jas., Collingwood	Shropshires.
Mau, Chas. F., Omagh	Leicesters.
Miller, Geo., Markham	Southdowns.
Monkman, W. D. S, Bond Head	Shropshires.
McFarland, John, Clinton	Shropshires.
McLees, J. H., Beaconsfield	Dorsets.
McEwen, Robt., Byron	Southdowns.
McNelly, Hugh, Arkell	Cotswolds.
MacLeod, Robt. G., Lansdowne, N.S	Oxfords.
McGillivray, J. A., Uxbridge	Dorsets.
McRobie, F., Iroquois	Leicesters.
McDonald, J. W., Lovat, N.S	Oxfords.
McCorkindale, Jno., Guelph	Leicesters.
Orr & Lillico, Galt	Leicesters.
Parkinson, E., Eramosa	Lincolns.
Parkinson, L., Eramosa	Leicesters.
Parkinson, Lazarus, Greenock	Oxford Downs.
Parkinson, Wm., Eramosa	Leicesters.
Park, E., Burgessville	Cotswolds.
Phillips, T. W., Oakville	Dorset Horns.
Rawlings, John, Ravenswood	Cotswolds.
Rawlings, S. J., Forest	Cotswolds.
Rae, W., Arkell	Cotswolds.
Rawlings, Fred, Forest	Cotswolds.
Robson, T. E., Ilderton	Lincolns.
Ross, J. C., Jarvis	Cotswolds.
Rudell, Abram, Hespeler	Shropshires.
Stratford, Graham K, Brantford	Dorsets and Shropshires.
Stratford, Jas., Brantford	Dorsets and Shropshires.
Slater, J. W., Buttonville	Cotswolds.
Snell, R. P., Snelgrove	Cotswolds.
Smith, John, Beachville	Leicesters.
Switzer, N. W., Streetsville	Shropshires.
Smith, A. W., Maple Lodge	Leicesters
Smith, W. M., Fairfield Plains	Merinos.
Smith, Wm., Columbus	Cotswolds.
Scott, Jas., Aberfoyle	Southdowns.
Shopland, J. S., Maywood, B.C.	Southdowns.
Stonehouse, Wm., Wyoming	Dorsets.
Tolton, Jas., Walkerton	Oxfords.
Tolton, Jas. L, Walkerton	Oxford Downs
Thompson, Wm., Uxbridge	Cotswolds.
Thompson, D. & E., Marden	
Turner, Thos., Uxbridge	
Vickery, Frank, Prince Albert	Cotswolds.
Walker, G, Ilderton	Lincolns.
Wren, Chris, Uxbridge	Shropshires.
Wellington, Wm., Forest	Cotswolds.
Whitelaw, A. & W., Guelph	Leicesters.
Wright, John, Mohawk	Leicesters.
Wright, John, Chesley	Leicesters.
Wright, W. E, Glanworth	Shropshires.
Wilson, Alex, South Salt Springs, B.C.	
Wood, C. & E., Freeman	Leicesters.
Yuill & Son, J., Carleton Place	

DOMINION SWINE BREEDERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Dominion Swine Breeders' Association convened at the Palmer House, Toronto, January 30th, 1903, at 2 p.m.; President G. B. Hood in the chair. The minutes of the last annual meeting were taken as read.

PRESIDENT'S ADDRESS.

By Major G. B. Hood, Guelph.

"It is customary at the annual meeting for the President to give a short review of the work done during the year. As the Secretary's report will deal with this so fully it is not necessary for me to take up the time of the meeting, still a few remarks may not be out of place.

"First I must congratulate the Association on another year's successful business. The swine industry was never in a more flourishing condition. While there has been no boom there has been a large demand for pure-bred animals at fair prices. And the price paid by the packers and dealers for animals that were suitable for the trade has certainly been satisfactory to the feeder. One notable feature of this year's business was the stability of the market. The price did not fluctuate to the same extent as in former years. The exhibits of swine at the large fairs were almost all that could be desired, and while improvement may be noted in many of the small fairs there is still work to be done before it can be said that the swine product of the Dominion is up to what it should be. This work must be done largely by this Association, and by our breeders exercising care in sending out none but animals of the best quality.

"When we call to remembrance the fine exhibit of swine our breeders made at the Pan-American in 1901, it would be well that steps should be taken at an early date to give all the assistance possible to those of our breeders who are preparing to exhibit at St. Louis next year.

"In conclusion I must congratulate the Association on the satisfactory state of our finances, and express the hope that the coming year may see the swine industry making a steady advance all along the line."

The Secretary-Treasurer's annual report was read and adopted.

RESOLUTIONS.

On motion it was resolved: "That the Executive Committee be instructed to carry out as far as practicable the scheme outlined by the Secretary in the clause of his report 'Expenses Incurred.'"

"That the President, J. C. Smith and R. Clark, Ottawa, compose the Eastern Exhibition Committee." Carried.

"That the Executive of the Swine Breeders' Association constitute the Sale Committee." Carried.

EXPERT JUDGES.

The following are the Expert judges nominated :

BERKSHIRES : Wm. Wilson, Snelgrove ; J. C. Smith, Hintonburg ; X. Plaunt, North Cote ; Samuel Dolson, Alloa ; Hugh G. Clark, Norval ; P. W. Boynton, Dollar ; Alex. Smith, Maple Lodge ; Wm. Jones, Zenda ; W. G. Caven, East Toronto ; Jas. McEwen, Kertch ; John Boyes, Jr., Churchill ; Henry Jones, Zenda ; H. J. Davis, Woodstock ; J. C. Snell, London ; Thos. Teasdale, Concord ; Geo. Green, Fairview ; Robt. Vance, Ida ; T. A. Cox, Brantford ; Jas. Quirie, Delaware ; Jos. Featherson, Streetsville ; R. P. Snell, Snelgrove ; C. R Decker, Chesterfield ; Chas. Youngs, Brooksdale ; D. DeCourcy, Bornholm ; R. H. Harding, Thorndale ; Jos. Bennett, Rockland ; E. E. Martin, Canning ; H. B. Jeffs, Bond Head ; Wm. Linton, Aurora ; E. Brien, Ridgetown ; G. B. Hood, Guelph ; J. E. Brethour, Burford ; Alex. Hart, Hampstead ; W. A. Shields, Milton ; D. J. Gibson, Bowmanville ; S. J. Lyons, Norval ; A. Johnston, Greenwood ; C. C. McAvoy, Atha ; J. L. Clark, Norval ; Aiken Dolson, Alloa : John Watkins, Norval ; D. C. Flatt, Mill Grove.

YORKSHIRES AND TAMWORTHS : David Barr, jr., Renfrew . E. A. Kipp, Chilliwack, B.C. ; Jas. Bray, Longburn, Man. ; Lou Rogers, Weston ; Geo. D. Betzner, Copetown ; R. J. Kerr, Mimosa ; W. R. Bowman, Mount Forest ; Wm. Jones, Zenda ; R. J. Garbutt, Belleville ; R. H. Harding, Thorndale ; N. M. Blain, St. George ; J. H. Simonton, Chatham ; G. North, Marden : A. Elliott, Galt ; L. F. Master, Haysville ; A. C. Hallman, New Dundee ; D. G. Hanmer, Burford ; John Nichol, Hubrey ; J. E. Brethour, Burford ; A. Laurie, Wolverton ; Wm. Davies, Toronto ; Richard Gibson, Delaware ; Henry Dedels, Kossuth ; G. B. Hood, Guelph ; Jos. Featherston, Streetsville ; H. E. Sharp, Ida ; A. F. McGill, Hillsburg ; J. M. Hurley, Belleville ; Geo. Gier, Grand Valley ; Jas Stephen, Trout River, Que. ; R. McCulloch, Harriston ; Jos. Fletcher, Oxford Mills ; Robt. Nichol, Brussels ; A. F. Foreman, Collingwood ; Jas. Leach, Toronto ; Wm. Howe, North Bruce ; G. E. Day, Guelph ; F. Shore, White Oak ; H. J. Davis, Woodstock ; D. C. Flatt, Mill Grove ; W. R. McDonald, Ridgetown ; W. Elliott, Galt ; R. G. Martin, Marysville ; J. E. Cousins, Harriston ; Geo. Green, Fairview ; J. W. Callbeck, Augustine Cove, P.E.I. ; J. G. Clark, Ottawa ; J. C. Smith, Hintonburg, D. Drummond, Myrtle ; H. B. Jeffs, Bond Head ; And. Graham, Pomeroy, Man ; A. Carey, Millgrove : James Yule, East Selkirk, Man. ; A. W. Ross, Bromley ; J. J. Pearson, Cooksville ; R. F. Duck, Port Credit ; Duncan Anderson, Rugby.

ESSEX : R. P. Snell, Snelgrove ; Major Hood, Guelph ; R. J. Garbutt, Belleville ; R. H. Harding, Thorndale ; Wm. Jones, Zenda ; Jas. Main, Milton.

DUROC-JERSEYS : D. C. Flatt, Mill Grove ; D. DeCourcy, Bornholm ; Major Hood, Guelph ; Geo. Green, Fairview ; Wm. Jones, Zenda ; J. E. Brethour, Burford ; R. H. Harding Thorndale ; W. M. Smith, Scotland ; Jos. Featherston, Streetsville ; W. N. Tape, Bentpath ; Geo. Bennett, Charing Cross ; H. George, Crampton ; W. Wilson, Snelgrove ; Prof. G. E. Day, Guelph ; Jos. McGarvin, Chatham.

POLAND CHINAS : Thos. Teasdale, Concord ; Jos. Featherston, Streetsville ; Daniel DeCourcy, Bornholm ; Geo. Green, Fairview ; Wm. Jones, Zenda ; W. M. Smith, Scotland ; Henry Jones, Zenda ; R. H. Harding, Thorndale ; C. W. Yapp, Brantford ; R. Willis, Glen Meyer ; W. N. Tape, Bentpath ; Prof. G. E. Day, Guelph ; Lawrence Tape, Ridgetown.

CHESTER WHITES: E. D. George, Putnam; R. E. Birdsall, Birdsall; Albert Baracky, Bloomington; Wm. Jones, Zenda; J. C. Snell, London; Geo. Green, Fairview; D. DeCourcy, Bornholm; R. H. Harding, Thorndale; G. B. Hood, Guelph; Gideon Snyder, Jarvis; Jos. Featherston, Streetsville; H. George, Crampton; G. Bennett, Charing Cross; W. N. Tape, Bentpath; J. E. Brethour, Burford; J. C. Nichol, Hubrey; Prof. G. E. Day, Guelph; W. E. Wright, Glanworth; Robert Clark, Ottawa; Provincial Winter Fair, G. B. Hood, Guelph.

RESOLUTIONS.

Moved by William Linton, seconded by J. E. Brethour, "The Dominion Swine Breeders' Association notes with satisfaction the marked progress made during the past year by the Industrial Exhibition Association of Toronto, as regards new buildings, improved accommodation for exhibitors, and the character of the exhibition generally. We also wish to place upon record our appreciation of the public spirit and liberality of the citizens of Toronto in providing funds for the erection of the new Butter, Cheese, and Dairy buildings, the New Art Gallery, the new Manufacturers' and Women's Building, and trust that no time will be lost by the City Council in pushing forward to completion the new Manufacturers' Building, Women's Building and other contemplated improvements. We cordially approve of the proposed Dominion Exhibition to be held at Toronto in 1903, and pledge our support and assistance to the Board of Directors of the Industrial Exhibition Association in helping them to carry such an exhibition to a successful issue, and also to aid them in securing the recognition of the Dominion Government and the procuring of sufficient grants from the Dominion and Local Governments to enable them to make the proposed Exhibition a complete success." Carried.

On motion, it was resolved: "That the Dominion Swine Breeders agree to donate to the Toronto Industrial Exhibition Association the sum of $300, providing they increase the amount offered last year in the Swine Department by $300."

"That the delegates to the Toronto Fair Board be instructed to appropriate the $300 grant by the Dominion Swine Breeders' Association, in the following manner: Berkshires $65; Yorkshires $65; Tamworths $65; Duroc-Jerseys $35; Chester Whites $35; other breeds $35." Carried.

"That the Dominion Swine Breeders' Association request the Toronto Fair Board to furnish better accommodation for attendants in charge of swine exhibits at their exhibition; also to furnish a suitable exhibition ring and better lighting facilities in the building." Carried.

"That this Association request the representatives of the Fair Board at London to ask for better accommodation for the attendants of Swine Exhibits at the Western Fair." Carried.

"That the Toronto Fair Board be asked to use their influence to induce the Grand Trunk to make a longer platform, and also give another entrance, if possible." Carried.

"That the Winter Fair Board be recommended to appoint as Judges on live bacon hogs one packer and two breeders." Carried.

"That the President, Vice-President and Secretary be a committee to act with the Joint Committee to take up the matter of the *Agricultural Gazette*, give it their consideration, and act accordingly." Carried.

"That the sum of $50 be granted by this association for a man in charge of Association Car." Carried.

"That the Dominion Swine Breeders' Association vote the sum of $75 for the purpose of advertising stock in the West." Carried.

"That the President and J. E. Brethour be a committee from this Association to act in conjunction with those appointed from other Associations to revise the rules and by-laws relating to fraud." Carried.

SWINE RECORD.

The following swine pedigrees have been recorded during 1902 :

Yorkshires, 2872 ; Berkshires, 1412 ; Chester Whites, 369 ; Poland Chinas, 114 ; Tamworths, 590 ; Duroc-Jerseys, 52 ; Suffolks, 1 ; Essex, 13.

SPECIAL PRIZES OFFERED BY THE DOMINION SWINE BREEDERS' ASSOCIATION AT BRANDON FAIR.

Berkshire sow, any age, Hon. Thos. Greenway, Crystal City, Man.
Yorkshire " " A. B. Potter, Montgomery, Assa.
Tamworth " " W. L. Trann, Crystal City, Man.
Other variety pure bred, sow, any age, W. L. Trann, Crystal City, Man.

AT WINNIPEG FAIR.

Berkshire sow, any age—Daisy, 6415, Hon. Thos. Greenway, Crystal City.
" boar, " Victor, 6219 " " "
Yorkshire boar " Summer Hill Victor 6th—2109, Thos. H. Canfield, Lake Park, Minn.
" sow " " Dalmeny Empress 16th—2699, " "
Tamworth boar " King George 56th—1432, Wm. McBride, Portage La Prairie.
" sow " Copper Queen—1912, W. L. Trann, Crystal City.
Chester White boar, any age—Mapleview King—2182, Wm. McBride, Portage La Prairie.
" sow " Hilda—1461 " "
Poland China boar " W. G. Duff,—1628, W. L. Trann, Crystal City.
" sow " Shoner's Choice, 1484, " "
Jersey Red or Duroc boar, any age, Abe, 519, W. M. Smith, Scotland, Ont.
" " sow " Scotland Lass, 468, W. M. Smith, Scotland, Ont.

OFFICERS FOR 1903.

President ..... G. B. Hood, Guelph.
Vice-President ..... Thos. Teasdale, Concord.
Secretary-Treasurer ..... A. P. Westervelt, Toronto.

Directors :

Berkshires ..... Geo. Green, Fairview.
Yorkshires ..... J. E. Brethour, Burford.
Chester Whites ..... R. H. Harding, Thorndale.
Poland Chinas ..... W. M. Smith, Scotland.
Duroc-Jerseys ..... W. N. Tape, Ridgetown.
Tamworths ..... J. C. Smith, Hintonburgh.
Essex ..... Jos. Featherston, Streetsville.
Ontario Agricultural College ..... G. E. Day, Guelph.

Dominion Live Stock Commissioner ..... F. W. Hodson, Ottawa.
General Director ..... Wm. Jones, Mount Elgin.
Auditor ..... J. M. Duff, Guelph.
Representatives to Fair Boards ;

Toronto Industrial..D. C. Flatt, Mill Grove, and R. P. Snell, Snelgrove.
Ottawa ..... A. P. Westervelt, Toronto, and J. A. Richardson, South March.
London ..... Geo. Green, Fairview, and D. DeCourcy, Bornholm.
Peterboro ..... Robt. Vance, Ida.
Guelph ..... G. B. Hood, Guelph, and Jas. Anderson, Guelph.
Belleville and Kingston..J. M. Hurley, M.P., Belleville.
Provincial Winter Fair ..G. E. Day, Guelph ; Wm Jones, Mount Elgin, and G. B. Hood Guelph.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1902.

Receipts.

Cash on hand	$2,115 72	
Members' Fees	776 00	
Record Fees	1,604 65	
Legislative Grant	2,000 00	
Binding volumes of Record	50	
Total		$6,496 87

Expenditure.

Grant to Provincial Winter Fair	$1,798 55	
Officers' Salaries and Directors' Expenses	527 91	
Postage and Stationery	130 24	
Typewriting and Office Work	410 55	
Printing	1,577 26	
Periodicals for Members	240 36	
Legal Services *re* Mortgage	8 00	
Telegraph, Telephone, Express, Exchange, etc	42 77	
Auditor, 1901	5 00	
Wages of man in charge of Stock Cars	50 00	
Cost of Reporting	4 00	
Prizes paid Brandon Fair	30 00	
Prizes paid at Winnipeg Fair	168 00	
Sundries	5 20	
To cash on hand	1,499 03	
	$6,496 87	$6,496 87

Examined and found correct this 28th day of January, 1903.

J. M Duff, Auditor.

G. B. Hood, President.
A. P. Westervelt, Treasurer.

MEMBERS OF THE DOMINION SWINE BREEDERS' ASSOCIATION 1902 AND 1903.

Name and address.	Breed.
Armstrong, A. B., Codrington	Yorkshires.
Allison, David, Roland, Man	Berkshires.
Ackland, John, Delaware	"
Alton, Jas., Belfast	"
Allen, Fred T., Hampton	"
Brander, G., Northport, N.S	"
Baldeone & Son, Wm., Manitou	"
Bradley, L. A., Portage La Prairie	"
Bray, Jas., Longburn, Man	York-hires.
Brandow, A. W., Walsingham Cen.	Chas. White.
Blain, N. M., St. George	Tamworth.
Banting, T. E. M., Banting, Man.	Yorkshires.
Baker, J. E., Barronfield, N.S	"
Bennett, Jos., South Buxton	Chester White
Bennett, G. & Pardo, Charing Cross	"
Beggs, John, Arcola	Berkshires.
Bell Estate, Jno., Amber	Tamworths.
Brethour, J. E. Burford	Yorkshires.
Bernarth, Jas., Nashville	"
Brien, Wm. & Son, Ridgetown	Berkshires.
Birdsall & Son, F., Birdsall	C. White.
Brien & Son, E., Ridgetown	Berkshire.
Bligh, E., Emerson	"
Birch, Rich, Anderson	Yorkshires.
Blyth, Everett, Redpath, Assa	
Boynton, P.W., Dollar	Berkshire.
Bowman, W. R, Mt. Forest	"
Boyd, Archie, Kars	"
Brown, F. W., Portage La Prairie	"
Bonnycastle & Son, F., Campbellford	"
Bowman, T. E., Berlin	Yorkshire.
Bowman, W. A., Elmdale, N.Y	"
Boyce, John, jr., Churchill	Berkshire.
Bulstrode, C. G., Qu'Appelle, Assa	
Bothwell, Geo. A., Owen Sound	Yorkshire.
Bruce, Jas., Newton Robinson	"
Brubacher, D. S., Winterbourne	Berkshire.
Brown, Ed., Boissevain, Man	"
Bowins Bros, I, Woodville	Yorkshires.
Botting McK, Swan River, Man	"
Booth, D. A., Melbourne, Que	"
Brown Bros., Ellisboro, Assa	Berkshires.
Clarke, Robt., Ottawa	Yorkshire.
Clark, J. G., Ottawa	"
Campbell, Duncan, Norwood	Berkshire.
Callbeck, J.W., Agustine Cove, P.E.I	"
Clark, J. L., Norval	Yorkshires.
Clark, H. G., Norval	Berkshires.
Chalmers, Wm., Hayfield, Man	Tamworth.
Crawford, Thos., Camlachie	Yorkshire.
Carruthers, C. J., Cobourg	"
Campbell, David, Clifford	"
Clarke, John, Orangeville	"
Central Experimental Farm, Ottawa	York. & Berk.
Clemons, G. W., St George	Yorkshires.
Chalmers, C Low Banks	"
Crozier, A., Beachburg	Berkshire.
Coxe, S A., Brandon, Man	"
Crowell, W. N., Napinka, Man	"
Cole, T. J., Bowmanville	Yorkshire.
Connolly, P. J., Middleton, P.E.I	"
Colwill Bros., Newcastle	Tamworth.
Cox, T. A., Brantford	Berkshire.
Cousins & Son, John, Harriston	"
Collyer, F. J., Welwyn, Assa	"
Chute, H. J., Somerset, N.S	"
Coldstream Ranch, Vernon, B.C	
Comerford, F. A., Eldorado	Yorkshire.

Name and address.	Breed.
Cochrane, A., Almonte	Yorkshires.
Currie, Chas., Morriston	"
Collins, P. O., Bowesville, Alta	"
Davis, H. J., Woodstock	Berkshires.
Day, N. & Sons, Powle's Corners	Yorkshires.
Davidson, J. H., Cobourg	"
Darling, L. A., Morganston	"
Davidson, Herbert, Nelson	Berkshires.
Dawson, J. H. Winnipeg, Man	Yorkshires.
Drake, S. F., Pownac, P.E.I	C. White.
Dalton, Jno., Victoria Harbour	Yorkshire.
Davidson, T., Spring Valley	"
Derbyshire, W. W., Wheatley	
Decker, C. R., Chesterfield	Berkshire.
Dennison, W. S., Dennison's Mills, Que	C. White.
DeVeter, W. H., Woodstock, N.B.	Yorkshire.
Deeks, J. D., North Williamsburg	"
Dewar, George A., Kertch	"
Dedels, H., Breslau	"
Dell Bros., Kertch	Berkshire.
Demaray, Chas., Strathroy	"
Devon, A. G., Eden, Man	Yorkshire.
Dyment, S., Barrie	Berkshire.
Donaldson, Jas., Dewittville, Que.	C. White.
Dolson, Samuel, Alloa	Berkshire.
Douglas, J. H., Warkworth	"
Douglas, D. & Sons, Mitchell	Tamworth.
Douglas, A. R, Franklin, Man	Berkshire.
Durham & Cavan, East Toronto	"
Dunn, Geo., Neepawa, Man	"
Duck & Son, Port Credit	Yorkshires.
Dunbar, John, St. Marys	Berkshires.
Edwards & Co., W. C., Rockland	Yorkshires.
Esdon, Jas. H., Curry Hill	Yorks & Berks
Edwards, G. A., Carberry, Man	Yorkshires.
Endsley, Mr. & Mrs. T. I., Charleton, Ill	Tamworth.
Elliott, Wm., Springbank	Berkshires.
Elliott & Son, A., Galt	P. C. & D. J.
Flatt & Son, D. C, Millgrove	Yorkshires.
Frank & Sons, A., The Grange	"
Frame, John, Crosshill	"
Featherston & Son, Jos., Streetsville	York. Suffolks & Essex.
Fretz, J. H., Pelham Union	Yorkshire.
Fenner, A. J., Comber	Duroc Jersey.
Fletcher, Geo. D., Binkham	Yorkshire.
Fee, C. H., Hartney, Man	Tamworths.
Fidler, Wm., Flett's Spring	Berkshires.
Foster, J. G., Moira	
Forrest, S., Renfrew	Berkshires.
Ford, H. J., Ladner, B.C	Yorkshires.
Fulton, jr., John, Brownsville	Tamworth.
Graham, A., Pomeroy, Man	York & Berk.
Garbutt, R. J., Belleville	Berkshire.
Graham, Jas., Forest Sta., Man	Yorkshire.
Gamble, G. R. T., Dewittville, Que.	"
Gray, Chas., Rockwood	
Glendenning, H., Manilla	Yorkshires.
Green, Geo., Fairview	Berkshire.
George, E D., Putnam	T. & C. White
Greenway, Hon. Thos, Winnipeg, Man	York. & Berk.
Greenwood, Thos., Douglas	Yorkshire.
Glendenning, John, Valentia	Berkshire
Green, F. L., Greenwood	
Gibson, Rich., Delaware	Yorkshires.

MEMBERS OF THE SWINE BREEDERS' ASSOCIATION.—*Continued.*

Name and address	Breed.
Gibson, John S., Morden, Man	Yorkshire.
Griffith, J. B., Melbourne	Berkshires.
Gillies, A. J., Muirkirk	"
Gilroy, G. A., Glen Buell	Yorkshires.
Gough, Ed., Powassan	Berks & Yorks
Gordon, Geo. E., Laurel	Yorkshire.
Groat, Chas., Brooklin	Tamworth.
Gordon, Wm, Udora	Yorkshires.
Goodliffe, Sydney J., Sussex, N.B	"
Govt. of Nova Scotia, Truro, N.S	"
Gorman, J. E, Merrickville	"
Gould, J., Markham	"
Hanmer, D. G., Mt. Vernon	
Harman, R., Temperanceville	Berkshire.
Hamilton, Samuel, Harriston	Yorkshires.
Hauser, Ignatius, Weisenburg	Berkshires.
Harris, Geo., Lynden	Yorkshire.
Hartman, J. W, Elm Hedge	"
Harding, R. H., Thorndale	C. White.
Hallman, A. C., Breslau	Tamworth.
Hartie, A. C., Comber	Berkshires.
Hadwen, G. H, Duncans, B.C	
Hart, Henry, Nilestown	Yorkshires.
Hetley, Nesley, Christina	Berkshires.
Hawkins, D., Woodville	"
Hamilton, Wesley, Chesterville	Tamworths.
Hardy, W., Roland, Man	Berkshires.
Hanley, J. C., Read	"
Hamil, Jos. & Son, Harwick	"
Henderson, Geo., Guelph	Yorkshires.
Hill, Geo., Delaware	Berkshire.
Hill, John, Wellesley	"
Hillier, Geo., Albuna	"
Hickling, C. M., Barrie	Yorkshire.
Hyslop, Robt., Brantford	Berkshire.
Hord & Son, John, Parkhill	Yorkshire.
Hood, G. B., Guelph	Berkshire.
Howe, Wm., North Bruce	Yorkshire.
Honey, Rich,, Brickley	"
Hoover & Sons, P. R., Green River	Tamworths.
Hogle, S. G., Violet	Yorkshires.
Hurley, J. M., Belleville	"
Hume & Co., A., Menie	"
Hutchison, L. E., Neepawa, Man	Berkshire.
Huggins, Alf, Courtice	Yorkshire.
Hunter, A. J., Rapid River	Berkshire.
Hughes, G. A., Lennon, Man	Yorkshire.
Irwin, J. M., Branchton	Berkshires.
James, Walter, Rosser, Man	"
Jarvis & Bros., R. L., Harwich	Duroc Jerseys.
Jamieson, Jno., Cass Bridge	Yorkshires.
Jeffs & Son, E., Bond Head	Berkshires.
Jones, Wm., Zenda	P. Chinas.
Johnson Bros., Underwood	Yorkshires.
Johnson, Ira, Balmoral	"
Jones, E. A., Kertch	Berkshires.
Kerr, R. J., Mimosa	Yorkshires.
Keough, James, Rockwood	"
King Bros, Wawanesa	"
Kitching, John, Corwhin	Berkshires.
King, N. P. & G., Oakwood	Tamworths.
Kipp, E. A., Chilliwack, B.C	Yorkshires.
Latimer Bros., Arkport, N.Y	"
Laidler, Jos., Neepawa, Man	Berkshire.
Lahmer, John, Vine	"
Lang, R. L., Oak Lake, Man	"
Lampman, J. H., Palmyra	"
Laycock, Hy., Rosebank, Man	Yorkshires.
Ladonceur, Benj, Otterburn	"
Lemon, S., Kettleby	Berkshires.
Lee & Son, Jos., Dunham, Que	C. White.
Lenz, A. C., Shilson, Man	Berkshires.
Lee & Sons, J. W., Simcoe	"
Lee, Wm., Carman, Man	Yorkshires.
Little, Jr., John, Henfryn	Yorkshire.
Little, Jr, Thos, Kirkwall	Berkshires.
Livingstone, W. A., Allan Park	Yorkshire.
Logan Bros., Amherst Point, N.S	Yorkshires.
Lowden, M. L, Binbrook	Tamworths.
Lyons, S. J., Norval	Berkshires.
Lockwood, N. M., Melbourne, Alta	Yorkshire.
Lowes, W., Drayton	Berkshire.
Mayloney, F. A, Chapeau, Que	Yorkshire.
Martin, F. E. Canning	Berkshires.
Martin, W. H. Warden, Que	"
Mark, G. H., Oakwood	Yorkshires.
Marsh & Son, E., Gladstone	"
Marsh, J. H., Byron	"
Marjerrison, Wm, Applehill	"
Meldrum, Alex, Billerica, Que	Berkshire.
Minnis, Chas., Leamington	Berkshires.
Mitchell & Son, C. N., Port Elgin	Yorkshires.
Midwinter, Chas., Louise Bridge, Man	York. & Berk.
Morrell, F. A., Way's Mills, Que	C. White.
Morrow, R. O., Hilton	Tam. & Yorks.
Moore, W. J., Lindsay	Yorkshire.
Mortson, W. H., Beausejour, Man	"
Murray, Thos., Avonton	Berkshire.
Mulloy, W. J., Winchester	Yorkshires.
Mutch, J. F., Pilot Mound, Man	Tamworths.
Murray, G. H, Oakwood	Yorkshire.
Mutter, A. A., Semenos, B C	Berkshires.
McAvoy, C. C., Atha	Berkshire.
McCrae, Wm., Guelph	Yorkshire.
McDairmid, D. R, Ridgetown	Berkshires.
McCallum, D, Admonton	Yorkshire.
McArthur, Wm., Gobles	Berkshire.
McCabe, Anson, Mount Wolfe	C. White.
McCallum, T. S., Danville, Que	Yorks. & Tams.
McTavish, Jas., Suburn, Man	Yorkshires.
McCrae, W. S., Andrewville	"
McPherson, Alex., Rutherford	C. White.
McKenzie, R. High Bluff, Man	Berkshire.
McEwen, Jas., Ketch	"
McEwens, Jas, Minnedosa, Man	Berkshires.
McPherson, John, Campbellton	Yorkshire.
McKellar, J. M., Belmont	"
McGill, J. A., Neepawa, Man	Berkshire.
McDonald, W. R., Ridgetown	Tamworths.
McDonald, John B., Muirkirk	Berkshire.
McDonald, H. T., Shawville, Que	Yorkshires.
McDonald, Jno., Crinan	"
McClure, J. A, Meadowvale	Yorkshire.
McGugan, A., Rapid City, Man	Berkshires.
Neilson, John, Scarboro	Yorkshires.
Nichol, J. C., Hubrey	Tamworth.
Nichol, Alex., Alexander, Man	Berkshire.
Nochols, Robt., Brussels	Berks. & Tams.
Niblock, C. E Lyndhurst	Yorkshires.
North, Geo, Marden	Tamworths.
Nunn, Cephas, Winslow Road, P.E.I	Yorkshire.
Owens, Hon. Wm., Montebello, Que	"
O'Brien, Jno., London, West	
Ormiston, Wm., Columbus	Yorkshire.
Oliver, Wm., Komoka	"
Ontario Agricultural College, Guelph	York. & Berk.
Ouellette, D. & A., Vereker	Berkshire.
Plaunt, N., Northcote	"
Parlee, M. H., Sussex, N.B	"
Patch, C. N., Brome, Que	"
Parsons, J. F. Barnston, Que	C. White.
Paynter, Robt., Kinistino, Sask	Yorkshires.
Paterson, Wm., Churchill	Yorkshire.
Pearce, Jno P., Staples	"
Peters & Son, E. J., Elmhurst, N.B.	"
Perl, Wm., Selkirk, Man	"
Phillips, F. W., Oakville	"

MEMBERS OF THE SWINE BREEDERS' ASSOCIATION.—*Concluded.*

Name and address.	Breed.
Phillips, W. H., Keyes, Man.	"
Pritchard, R. J., Roland, Man.	Berkshires.
Pomeroy, W. J., Belmore.	Berkshire.
Potter, A. B., Montgomery, Assa.	"
Pope, J. C., Regina, Assa.	Berk. & York.
Provincial Farm, The, Charlottetown.	York. & Berk.
Reid, Isaac, Ardtrea.	Berkshire.
Reid & Co., R., Hintonburg.	Berk. & Tam.
Rettie, Jas., Norwich.	Yorkshire.
Reid, A. T., Orillia.	"
Reid, D., Victoria Cross.	"
Richardson, John A., South March.	"
Rich, W. P., Clarke.	Berkshire.
Ricardo, W., Vernon, B.C.	Tamworths.
Ross, A. W., Bromley.	Yorkshire.
Roddick, R. F., Brandon Hills, Man.	Berkshires.
Rogers, L., Weston.	Yorkshire.
Robson, J. W., Durham, Man.	Berkshires.
Runcinan, Geo. A., Warkworth.	Berkshire.
Rusnell, Frank, Cedarville.	"
Ruston, J. F., Woodslee.	"
Russell, Jas. A., Precious Corner.	Yorkshire.
Rudd, W. J., Eden Mills.	Berkshires.
Ruthven, R., Clarkeburg.	"
Russell, D. H., Stouffville.	Yorkshires.
Shaw, A. J. C., Thamesville.	Berkshire.
Scanlan Bros., Ennotville.	Berk. & York.
Standeaven & Sons, F., Motherville.	Yorkshires.
Shannon Bros., Cloverdale.	Berkshire.
Savigny, Bruce, Peterborough.	Yorkshire.
Shaw, Helen, Calgary, Alta.	Berkshire.
Sargent, F. O., Eddystone.	Tamworths.
Sanderson, Geo., Colborne.	Yorkshires.
Stratton, J. A., Stonewall, Man.	"
Snell & Lyons, Snelgrove.	Berkshires.
Shephardson, W. J., Walters' Falls.	Berkshire.
Spencer, W. H., Guilds.	"
Selby, N. T., Newcastle,	Tamworths.
Sherwood, T., Fergus.	Berkshire.
Stewart, F. B., Eppyville Station, Pa	Yorkshire.
Stewart, J. J., Gladstone, Man.	"
Snell, J. W, Hagersville.	"
Stewart, Geo., Pipestone, Man.	"
Smyth, R. L., Fargo.	P. Chinas.
Srigley, John, Allandale.	Yorkshire.
Siprell & Carroll, Carholme.	P. Chinas.
Siffert, J. H., North Bruce.	Berkshire.
Smith, W. M., Fairfield Plains.	P. Chinas.
Shore & Son, Frank, White Oak.	Yorkshires.
Stevenson, A., Attwood.	Yorkshires.
Smyth, J. M., Box 619, Chatham.	P. Chinas.
Styles, Wm. G., Rosser, Man.	Berkshires.
Scott, R. C., Galt.	Yorkshires.
Smith, Jas., Mossley.	Yorkshire.
Snowden, Samuel, Bowmanville.	"
Smith, Dr. N. H., Carman, Man.	"
Schnurr, H., Formosa.	"
Smith, A. E., Mill Grove.	"
Scott, John, Glasgow.	Yorkshires.
Smith, F. C., New Hamburg.	Tamworths.
Scott, Wm., Eramosa.	Berkshires.
Scott, R., Box 75, Souris, Man.	Yorkshires.
Sutherland, R., Egansville.	"
Swift Bros., Clover Bar, Alta.	"
Stone Stock Co., F. W., Guelph.	"
Sworder, E. D., Fort Qu'Appelle, Assa.	Yorkshire.
Tape Bros., Ridgetown.	D. Jerseys.
Tape, Wm., Bentpath.	"
Trann, J. L., Crystal City, Man.	Yorkshire.
Taylor, George, Rockwood.	"
Taylor, Jas., Oakwood.	"
Tran, George J., Mongolia.	"
Taylor, John, Rockwood.	Berkshires.
Teasdale, Thos., Concord.	"
Terrill, A., Wooler.	Yorkshire.
Teasdale, Wm., Dollar.	Berkshires.
Thompson & Son, S. J., St. James, Man.	Berkshire.
Thompson, Jos., Sardis, B.C.	C. Whites.
Thompson, C. C., Deloraine, Man.	Berkshires.
Tufts, A. H., Tweed.	Yorkshires.
Tuttle, Fred., Iroquois.	Tamworths.
Tupper, J. B., Tillsonburg.	Yorkshires.
Thurston, C. W., Oak Heights.	"
Vance & Sons, R., Ida.	Berkshires.
VanLoon, A. H., Waterford.	Yorkshires.
Usher, Isaac, Queenston.	Yorkshire.
Walker, J. E., Neepawa, Man.	Yorkshires.
Wilson, Mrs. A. J., Pittsfield, Ohio.	Yorkshire.
Wilson, Wm., Snelgrove.	Berkshire.
Wiley, Nelson, Wisbeach.	Tamworth.
Willis, Jr., R., Glen Meyer.	P. Chinas.
Williams, Frank, Melbourne.	Berkshires.
Wood, Jas. E., Langwood.	Yorkshires.
Willis, Amos, Gorrie.	Yorkshires.
Wright, W. E., Glanworth.	C. White.
Young, S., Guelph.	Yorkshires.
Yuill, Jos., Carleton Place.	Yorkshires.

WESTERN ONTARIO POULTRY ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Association was held in the Council chamber, Guelph, on December 11; the President, Mr. Tyson, in the chair. The minutes of last meeting were taken as read. The financial statement was read by the secretary and adopted; followed by the election of officers.

Mr Skinner, manager of the Chicago Fat Stock Show, was introduced to the meeting, and addressed it briefly. He stated that there was a probability of the next show in Chicago including poultry in its lists. He was here to take notes on the show. Mr. F. W. Hodson said some very nice things of Mr. Skinner, whom he introduced as a Canadian.

The meeting then adjourned.

THE DIRECTORS' MEETING.

A. P. Westervelt was re-elected Secretary-Treasurer at a salary of $200.

Novice classes were added for Barred Rocks, of same money as the regular classes. These classes are confined to exhibitors who have never won a 1st or 2nd prize at any Ontario show and will be tried for one year. The following additions were made to list: Partridge Wyandottes, Buff Orpingtons, any other color; black Cochin Bants; A. O. V. Cochin Bants to read "Partridge;" white Japanese Bants and white Game Bants, also Indian Runner ducks. In pigeons, ten classes were put on. Tumblers to read long face muffled, long face clean leg, almond short face and A. O. C. short face, four classes. Swallows, black, any other solid color and any other color, three classes. Owls, African, any color; English blue or silver, English; any other color: and Owls, any other variety. Pigmy Pouters, Runts, and Oriental Frills completed the additions.

The coops at next show to have nothing on but the numbers, the Secretary to have the privilege of publishing official catalogue, to be responsible for its correctness and to have copies ready when the show opens.

W. M. Smith was recommended as judge of water fowl by M. T. Burn. The next meeting of the directors will be held on the Thursday of second week of Industrial Exhibition, at 1.30 p. m.

OFFICERS FOR 1903.

Honorary President.....F. W. Hodson, Ottawa.
President.....Wm. McNeil, London.
1st Vice-President.....M. T. Burn, Tillsonburg.
2nd Vice-President.....John Crowe, Guelph.
Secretary-Treasurer.....A. P. Westervelt, Toronto.
Auditor.....J. M. Duff, Guelph.

Directors:

James Dundas, Deer Park.
A. W. Tyson, Guelph.
J. S. Jeffrey, St. Catharines.
T. Scott, St. Thomas.
Allan Bogue, London.
J. W. Kedwell, Petrolea.
W. R. Graham, Guelph.
C. H. Wilson, East Oro.
John Ramsay, Owen Sound.

Delegates to Fair Boards :

Toronto Industrial—W. Barber, Toronto ; L. H. Baldwin, Deer Park.
Western Fair—J. H. Saunders, London ; W. H. Beattie, Wilton Grove.
Brantford Fair—J. H. Minshall, Brantford ; Geo. W. Colwell, Paris Station.
Hamilton Fair—Rev. Thos. Geoghegan, Hamilton ; G. G. Henderson, Hamilton.
Provincial Winter Fair—Wm. McNeil, London ; A. W. Tyson, Guelph.

FINANCIAL STATEMENT OF THE WESTERN ONTARIO POULTRY ASSOCIATION.

RECEIPTS.

Cash on hand	$182 86	
Members' fees	205 00	
Legislative Grant	1,000 00	
Entry fees, Winter Fair	1,064 50	
Special prizes, Winter Fair	213 50	
Total		$2,665 86

EXPENDITURE.

Prizes paid	$1,723 00	
Secretary's salary	150 00	
Postage, printing and advertising	71 50	
Judges' expenses	155 00	
Lecturers' expenses	7 75	
Feed for poultry at Winter Fair	13 45	
Assistants and superintendent at Fair	84 60	
Engraving silver cup $2, freight $3.57	5 57	
Auditor	10 00	
Total		$2,220 87
Balance on hand		$444 99

WM. MCNEIL, President.
A. P. WESTERVELT, Treasurer.

Examined and found correct, Toronto, December 2, 1902.
J. M. DUFF, Auditor.

LIST OF MEMBERS, 1903.

Name and address.	*Variety entered.*
Armstrong Bros., Fergus	Buff Cochin, Barred Plymouth Rocks, Black Spanish.
Andrew, Thos., Pickering	Barred Plymouth Rocks.
Auld & Auld, Eden Mills	White Wyandottes.
Andrews, Fred A., London	White Plymouth Rocks, Black Minorcas.
Aylmer Fruit and Poultry Farm, Aylmer	Barred Plymouth Rocks.
Arthur, Jas., London	Silver Wyandottes.
Awde, F. D., Cheapside	
Barr, J., Woodstock	Golden Wyandottes.
Bessey, W. H., Coleman	White Plymouth Rocks.
Baldwin, L. H., Deer Park	White Wyandottes.
Barber, W., Toronto	Games and Bantams.
Burn, M. T., Tilsonburg	Langshans, Dominiques, Geese and Ducks.
Barnesdale, James, Stratford	White Leghorns.
Boyce, J. R., London	Barred Plymouth Rocks, S.C. Leghorns.
Bertie, James, Toronto	Pyle Bantams.
Baulch, Jos. H., Port Hope	Pigeons.
Boton, Arthur, Rockwood	
Boyd, E. W., Milton-West	White Plymouth Rocks.
Bell, W. J., Angus	R.C. White Leghorns.
Beattie, W. H., Wilton Grove	Turkeys and Geese.
Bartlett, Rev. S. T., Napanee	Buff Wyandottes.
Brierly, W. H., Guelph	S. C. Leghorns.
Bradley, John, Milton	S.C. Brown Leghorns.
Barton, A. W., Toronto	Pigeons.
Bricker, Alvin, Listowel	Game Bantams.

LIST OF MEMBERS.—*Continued.*

Name and address.	*Variety entered.*
Bogue, Allan, London	Black Spanish, G.P. Hamburgs, Dorkings, Polands, Geese and Ducks.
Barber, R. H., Guelph	Games.
Barber, R. K., Toronto	Pigeons.
Brown, A. G., Watford	White Plymouth Rocks.
Becker, H. F., Waterloo	S.C. Brown Leghorns.
Bell, Currier & Price, Toronto	Pigeons.
Baker, E. S., Guelph	Ducks.
Builder, E., Dundas	White Leghorns.
Bogue, G. & J., Strathroy	Wyandottes, Dominiques, Spanish Black, Red Caps, Game, Polands, Houdans, Ducks and Dressed Poultry.
Burrmont Pigeon Lofts, Ottawa	Pigeons.
Bell, A. W., Toronto	Buff Cochins and Bantams.
Barber, Vic., Toronto	Pigeons.
Cullen, D. S., Drumbo	White Wyandottes, Hamburgs.
Coates, Dr R. C., Thamesville	S.C. White Leghorns.
Cadman, Wm., St. Thomas	R C. Brown Leghorns, Orpingtons.
Campbell, W. J., Snelgrove	Plymouth Rocks, Wyandottes, Leghorns.
Colwell, Geo., Paris Station	Bantams, Dressed Poultry and Water Fowl.
Cassidy, C. V., Ailsa Craig	Barred Plymouth Rocks.
Crowe, Chas. R., Guelph	Game Bantams.
Crowe, John, Guelph	Black Red Games.
Colsor, John, Guelph	Ducks, White Rocks, Black Javas, W. Cochin Bantams.
Copeland, Ezra, Rockwood	Buff Plymouth Rocks.
Cornwall, Nate A., Thamesville	Buff Leghorns.
Cameron, John, Brantford	Light Brahmas.
Cosh, Newton & Co., London	Barred Plymouth Rocks, Buff Wyandottes and Andalusians.
Corcoran, J. L., Stratford	Dorkings.
Cook, Frank & Son, Midland	Rabbits.
Caughbell, Wm., St. Thomas	A.O.V. Fowls.
Carroll, J. A., London	Plymouth Rocks, Wyandottes and Indian Games.
Crane, R. N., Guelph	Plucking Contests.
Chambers, John, Toronto	
Daly & Dill, Seaforth	White and Buff Plymouth Rocks.
Doan, A. E., Watford	Black Leghorns.
Dinner, R., St. Thomas	Black Wyandottes and Indian Games.
Dunne, Henry, Toronto	White Minorcas.
Depress, A. E., Hull, Que	Buff Cochin Bantams.
Dundas, James, Deer Park	Buff Leghorns, Dressed Poultry.
Daniels, C J., Toronto	Game, Orpingtons, Javas, Plymouth Rocks and Golden Wyandottes.
Donovan, H, B., Toronto	Bantams, Silkies and Pigeons.
Dewar Bros., Milton	S C, Brown Leghorns.
Dentonia Park Farm, Coleman	Dressed Poultry and White Wyandottes.
Dewey, E. J., Toronto	Black Langshans.
Doran, John, Guelph	Dressed Poultry.
Elliott, A., Pond Mills	A.O.V. Fowl, Turkeys.
Eidt, E. H., Stratford	White Wyandottes.
Elliott, Geo., Port Robinson	White Wyandottes.
Furminger, S. D., St. Catharines	Game Bantams, Colored Dorkings, Orpingtons, A.O.V. Fowl, Ducks.
Ford, James, & Son, Drumbo	Turkeys.
Fox, Wm., Toronto	Rabbits.
Frith, E. R., Maxville	Black Minorcas.
Fink & McMichael, Woodstock	Partridge Cochin, Dominiques and Indian Game.
Ferguson, W., Brantford	S.C. White Leghorns.
Fleet, J., Hanover	S.C. White Leghorns.
Fairley, W. H., Guelph	Black Minorcas.
Ford, E. Rockwood	White Plymouth Rocks.
Fyfe, Mrs. M. A., Gourock	Dressed Poultry.
Frith, S. W. D, Winchester	Orpingtons.
Gould, Peter, Guelph	Black Leghorns, Polands and Spanish.
Gracey, R. J, Welland	White Wyandottes and R.C. Brown Leghorns.
Garside, J. & J. Sage, London	Dark Brahmas.
Grundy, Jos., & Bros., Guelph	Black Leghorns.
Guttin, J. A., Owen Sound	Houdans, Minorcas, Buff Plymouth Rocks and Andalusians.
Good & Harron, Berlin	S.C. White Leghorns, Black Leghorns and Orpingtons.
Geoghegan, Rev. Thos., Hamilton	Light Brahmas and Black Red Games.
Gow, Geo., Fergus	Barred Plymouth Rocks, R.C. White Leghorns and Black Minorcas.
Grier & Platt, Owen Sound	S.C. White Leghorns.
Gosnell, Samuel, Highgate	Silver Wyandottes.
Goulding, G., & Son, Toronto	Games.
Greig, James B., Stratford	Orpingtons.
Gillam, J. M, Woodstock	Games.
Graham, A. W., St. Thomas	Golden and Buff Wyandottes.

LIST OF MEMBERS —*Continued.*

Name and address.	*Variety entered.*
Hetherington, Jos., Guelph	G.P. Hamburgs.
Hancock, C R., Chatham	Barred Plymouth Rocks, R.C. White Leghorns and Bantams.
Hugh, W. C., Port Hope	Buff Cochins, Bantams and Orpingtons.
Hales, Ernest A , Guelph	Indian Games, Cross-bred Chicks and Dressed Poultry.
Hagen, H. A., Berlin	White Plymouth Rocks.
Henderson, G. G , Hamilton	S.C. Brown Leghorns.
Hamilton, John G., Galt	White Plymouth Rocks and Minorcas.
Hart & Grimoldby, Owen Sound	Buff Leghorns and Game Bantams.
Henderson & Billings, St. Marys	Buff Plymouth Rocks, Silver Wyandottes, R.C. Brown Leghorns and Spanish.
Henrick, C. S., Galt	White Plymouth Rocks.
Hodgkin, F. W., Guelph	Canaries.
Henry, Wm., Toronto	Houdans.
Hammall, Wm., Toronto	Game Bantams and Pigeons.
Henderson, Wm., Humber Bay	Games.
Howard, W., Guelph	Pyle Bantams.
Henry, Robt., Guelph	Pigeons.
Hertel, C., Hanover	Golden and White Wyandottes and S.C. White Leghorns.
Halliday, Jas. J., Toronto	Plucking Contest.
Ionson, G. A., Ingersoll	Buff Plymouth Rocks.
Innes, John, Rockwood	Partridge Cochins, Silkies, Orpingtons and A.O.V.
Jeffery, J. S , St. Catharines	
Jeffries, E., Toronto	Buff Leghorns.
Kinder, G. W., Strathroy	Barred Plymouth Rocks, Red Caps.
Kedwell, J. W., Petrolea	
Knight, J. T., Guelph	Barred Plymouth Rocks, Crossbreds, Ducks, Dressed Poultry.
Kingsmill, Jr , T. F., London	White Wyandottes, Orpingtons.
Kerr, Wm. K., Coleman	Orpingtons.
Kettlewell, N F., London	White Wyandottes.
Kiley, T. J., Aylmer	Duckwing Game Bantams.
Karn, H., Guelph	Crossbred Chicks.
Ludwig L. V., London	Pheasants.
Leslie, J. K , Owen Sound	Buff Leghorns.
Langelier, G. A., Quebec	Dark Brahmas, Black Langshans.
Luxton, A. G. H., Milton	White Wyandottes, White Minorcas, Games, Turkeys and Geese.
Lannin, John, Guelph	Black Leghorns.
Latta Bros., London	Black, Partridge and White Cochins.
Lemon, W., Lynden	Golden and Silver Wyandottes.
Laidlaw, Jas. R., Paisley	S.C. White Leghorns.
Minshall, J. H., Brantford	Black Minorcas and Dressed Poultry.
McMullen, Thos. F., London	Silver Wyandottes.
Monck, J. F., Toronto Junction	White Wyandottes, Pyle Bantams and Belgian Hares.
Magill, J. H., Port Hope	Golden Wyandottes and Pigeons.
McDougall, A., & Son, Milton	Silver Grey Dorkings, Turkeys, Geese, Ducks and Dressed Poultry.
McKee, John, Norwich	Silver Grey Dorkings.
McGill, Georgina, Eramosa	Dressed Poultry.
McCormack, W. J., Toronto	Pigeons.
McKay, Josiah, Clachan	Buff Plymouth Rocks and Orpingtons.
McNeil, Wm., London	Hamburgs, Polands, Bantams, Silkies and Dressed Poultry.
Millard, I. K., Dundas	Barred Plymouth Rocks.
McCormack, Jas., Rockton	Barred Plymouth Rocks, Brown Red Bantams, Dorkings, Ducks, Dressed Poultry.
McKay, J. C., Georgetown	Black Minorcas, A. O. V. Fowls.
McCurdy, Robt , London	Black Langshans.
Mayhew, C. A., Thamesville	Black Minorcas.
Munro, Hugh, Marden	Black Minorcas.
McKee, Jas. W., Norwich	White Wyandottes, and S. C. White Leghorns.
Mayhew, Geo. A., Thamesville	Pheasants.
Meadows, Jas , Rockwood	Golden Wyandottes.
Morley, Jas., Milton	Black Red Games.
Millard, R. B , London	Barred Rocks and White Wyandottes.
McDonell, F. P., Watford	Black Wyandottes.
McKay, Richard, Hamilton	Barred Plymouth Rocks.
Murray, W. G., Strathroy	Partridge Cochins, Leghorns and White Minorcas.
Massie, Chas., Port Hope	White Wyandottes and Pigeons.
Modlin, Jno., Hamilton	Indian Games.
McLoud, Wm., London	Barred Plymouth Rocks.
Nahrgang, G. W. Palmerston	Pigeons.
Nicolls, A. E , Fergus	Buff Cochins.
Niall, C. J., Toronto	White Wyandottes.
Ness, R., Howick, Que	S. G. Dorkings.
Norton Alex., Bolton	S. C. White Leghorns.
Otto, D. H., Stratford	White Plymouth Rocks.
Orr, E. E., Brantford	S. C. Brown Leghorns.

LIST OF MEMBERS.—*Concluded.*

Name and address.	*Variety entered.*
Oke, Richard, London	Partridge Cochins, Barred Rocks, Black Wyandottes, Javas, R. S. W. Leghorns, Hamburgs, Bantams, French and Sultans.
Osborne, W. M., Brockville	Black Leghorns, White Minorcas.
Oakwood Farm, Toronto	Black Red Bantams.
Ottawa Pigeon Lofts, Ottawa	Pigeons.
Oakley, Wm., Toronto	Barred Plymouth Rocks.
Parsons, J. H., Osaca	Indian Game, A. O. V. Fowl, Crossbred chicks.
Pickard, J. J., Drumbo	Light Brahmas, Silver Wyandottes, Siver Seabright Bantams.
Poole, Geo., Guelph	White Wyandottes.
Pawling, H. J., St. Catharines	Black Red Game Bantams.
Philpott, Jas., Guelph	Black Langshans, Silver and White Wyandottes, Games and Game Bantams, S. G. Dorkings, Orpingtons, D. Poultry.
Pollock, W. E., Norwich	S. C. Brown Leghorns, Dressed Poultry.
Potts, W. E., Dorchester	Pekin Ducks.
Polson & Lockwood, Melbourne	S. C. Brown Leghorns.
Player, W. J., Galt	Buff Wyandottes, S. C. Brown Leghorns.
Rennelson, R., Galt	S. Sp. Hamburgs and Dominiques.
Rice, C. F., Bowmanville	Spanish.
Radley, M., Montreal	White Plymouth Rocks, Silver Wyandottes.
Reid, W. W., Kingston	Buff Wyandottes, Javas, Game Bantams, Ducks and Pigeons.
Roberts, Jno., St. Thomas	Black Red Games.
Readwin, A. & T., Guelph	Buff Plymouth Rocks, Silver Wyandottes, Black Leghorns and Crossbred chicks.
Ramsay, Jno., Owen Sound	S. C. White Leghorns.
Rife, Wm. A., Hespeler	White Plymouth Rocks, R.C.W. Leghorns.
Rice, Thos., Whitby	White Plymouth Rocks and S. C. White Leghorns.
Roos, P. H., Waterloo	Buff Leghorns, Orpingtons.
Snyder, Elias, Burgessville	Barred Plymouth Rocks and White Wyandottes.
Sage, L. C., London	Dark Brahmas, White Rocks and Dressed Poultry.
Sherlock, Thos., Hamilton	Pyle Games.
Spry & Mick, Toronto	Buff Wyandottes.
Scott, T. H., St. Thomas	Buff Plymouth Rocks, Buff Wyandottes and A. O. V. Fowls.
Shea, T. M., Fergus	Geese and Ducks.
Smith, J. & L., Guelph	A. O. C. Langshans.
Sallows, H., Guelph	Black Red Game.
Smith, Lew, Milton	White Wyandottes.
Snowden, S., Bowmanville	Barred Plymouth Rocks, White and Golden Wyandottes, R. C. Brown Leghorns, Andalusians, S. S. Hamburgs, Buff Cochins Bantams and Turkeys.
Slessor, W. J., London	Black Langshans.
Sayre, Geo. A., Chatham	Black Minorcas.
Stockwell, C., London	Houdans and Dressed Poultry.
Scanlon Bros., Ennotville	Turkeys and Geese, Dressed Poultry.
Stewart, C. A., London	Buff Cochins.
Saunders, J. W., London	Buff Wyandottes.
Taylor, J. G., Woodstock	S. C. Brown Leghorns.
Tilt, C. A. R., Doon	Dark Brahmas, Black Langshans, Geese and Ducks.
Tozer, H. R., London	R. C. Brown Leghorns.
Thompson, W. J., Guelph	Black Minorcas.
Thompson, Jno., Fergus	Light Brahmas, Black Minorcas.
Tossey, Geo. A., Hamilton	Light Brahmas.
Taylor, Thomas, London	Orpingtons.
Teale W. J., Guelph	A. O. C. Langshans, S. C. W. Leghorns, Indian Games, Bantams and Ducks.
Tyson & McMaster, Guelph	Games and Game Bantams.
Tomalin, Jos., Deer Park	Dressed Poultry.
Vance, Geo., Woodstock	Games.
Wyatt, Hugh, London	Buff Cochins, Light Brahmas and Dressed Poultry.
Woodrow & Son, Burgessville	Dressed Poultry.
Watson, Jas., Sonya	Dressed Poultry.
Wardell, Thos., Woodstock	Andalusians.
Wright, W. E., Glamworth	Turkeys and Dressed Poultry.
Warwick Game Yards, London	Games.
Walker, Jas., Fergus	Barred Plymouth Rocks.
Wolfe, F. M., Galt	Black Red and Duckwing Bantams.
Woodward, F. A., Toronto	

EASTERN ONTARIO POULTRY ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Eastern Ontario Poultry Association was held in the office of the Dominion Live Stock Commissioner, Imperial Building, Ottawa, on Wednesday, February 11th, 1903; the President, Mr. F. H. Gisborne, of Ottawa, in the chair.

As the minutes of previous meeting had been printed in the report, they were adopted as read.

The Secretary's annual report was read and adopted.

The financial statement of the Association for the year 1902 was read by the Secretary, received with applause and adopted.

PRESIDENT'S ADDRESS.

By F. H. Gisborne, Ottawa.

Perhaps it would be in order for me as President to say a few words in regard to this exhibition. No doubt a great many of you are aware of the hard time we have gone through in connection with this present show. We were feeling very doubtful about it, as we did not know where we were going. It was very doubtful at one time whether the live stock men would hold a show, or where they would hold it. Again it was very difficult to get a building that would be suitable for both the live stock and poultry show.

Just here I would like to say a few words as to the work of Mr. H. B. Cowan, who until recently was the agricultural editor of the Ottawa *Journal* and the editor of the Ottawa Valley *Journal*, but who has now gone to fill an important position on the staff of an American paper. This gentleman is a very great loss to our city, in all lines of live stock; he did a great work for our Association.

Speaking again of the question of a building, I would say that we finally got down to the choice between two; these being the building of the Ottawa Forwarding Company, where the show is being held, and the exhibition grounds, to which latter many people had very strong objections. A little while ago, as I say, the outlook of our show was very discouraging. If the live stock men had dropped out and decided not to hold their show, we poultry men would have had to go to the old By-Ward market building. We could not afford the expense of fitting up a building, and if we had gone out to the exhibition grounds we would have had no atttendance to speak of, and our show would have been a failure; but when the stock men came together they said it was a case of making this show go or dropping out altogether. They decided to make it go, and the Ottawa Forwarding Company's building was decided on. I wish some of you poultry men could have seen that building a fortnight ago. The great question was that of light. The room was very dark, and one gentlemen suggested that we could have the judging done by lamp light. Now I do not know whether any of the gentlemen present would like to have their birds judged by the light of a coal oil lamp, but I am sure I would not have been delighted to have birds of mine judged in this way. We eventually persuaded the owner to allow us to cut windows in the ends and in the roof, and although they are far from satisfactory quarters, the most important part is that the show has got a start It has

been given a considerable impetus, and every member of the Association should be prepared to put his shoulder to the wheel and help to push the wagon up the hill. When we have a satisfactory building we will be well over that hill. The crowd that was at the show to-day seemed impressed, and the outlook for poultry show seems bright, but there is this to be said for the next year. We must stand shoulder to shoulder and fight as strongly as we can, as we have still a great deal of pushing to do, and I am sure we will all do this in the interests of our Association and our show. I have spoken to several of our alderman and to our Mayor, and they seem deeply impressed, and I really think we can be hopeful and look forward to have a suitable building for our show in future. We have the birds, and we have the men willing to show them, and we should be able to get a building.

The officers and committee were then appointed.

RESOLUTIONS.

"That a committee, composed of the President, the Secretary, and the Dominion Live Stock Commissioner, prepare a petition to be signed by all members of the Association, urging the city of Ottawa to put up a suitable building for our show." Carried.

"That it is the unanimous opinion of the Association that it would be very desirable, in the interests of Canada, that the Dominion Government and the local Governments give every assistance and use every means in their power to secure a good poultry exhibit at the World's Fair to be held in St. Louis in 1904." Carried unanimously.

The meeting then adjourned.

REPORT OF SECRETARY.

In submitting the annual report I wish to congratulate the Eastern Ontario Poultry Association upon the success which is attending the exhibition now being held. The accommodation is far from being all that could be desired for either the poultry, the live stock, or lecture rooms. The local committee, however, deserve a great deal of credit for the admirable manner in which this building was prepared for the exhibition.

As you are no doubt aware, the sum of twelve hundred dollars was donated by the City Council of Ottawa for preparing the building, and small grants were also given by some of the surrounding counties, It is hoped, however, that before another year, the members of the City Council will see their way clear to having a permanent building erected for the purpose of the exhibition; that is a combined poultry and live stock show. If the show is permanently located, arrangements will have to be made for representation from the Poultry and Live Stock Associations. The following is a letter received by me from the Hon. Jno. Dryden, under date of Jan. 3, 1903, covering this matter:

"*Dear Sir*,—Referring to the Eastern Live Stock Exhibition, which is to be held at Ottawa, as this "is an Eastern exhibition I think that the Executive Committee should be composed of persons residing "in the eastern part of the Province. I think however that the president of each of the Dominion "Cattle, Sheep and Swine Breeders' Associations should be one of the representatives on the Executive "Committee, and that the other representatives from each of the Associations should be members of the "Associations residing in the eastern part of the Province. The Executive Committee would then be "composed of three representatives from the Eastern Ontario Poultry Association, three members from the "Dominion Cattle Breeders' Association, three members from the Dominion Sheep Breeders' Association, "and three members from the Dominion Swine Breeders' Association. The two members of each of "the Associations, apart from the president, should, I think, be appointed at the annual meeting, the

"same as is done in the case of representatives on the Winter Fair Board at Guelph, which has worked "out quite satisfactorily.

"The above should form the basis of the constitution for the management of this Eastern Ontario "Exhibition. For the coming show, in addition to the presidents of the Associations, the other members "could perhaps be elected at a meeting of the breeders' interested in the exhibition, which I understand "is to be held at an early date."

The committee should be given authority to act with Committees appointed by the other Associations, to deal with any agreement or other matter necessary in connection with having the shows permanently located at Ottawa.

At the last annual meeting the Executive Committee was instructed to meet with the representatives of the Western Ontario Poultry Association, to prepare a uniform system of numbering for the exhibitions. The result was the system used on the coops during the present show.

According to instructions received at the last annual meeting, Mr. Dryden was approached with reference to providing additional poultry coops. The Minister has agreed to place five hundred dollars in the estimates for 1903, to be used for this purpose. If a permanent building is provided next year, the Poultry Department will commence with a new outfit of wire coops.

A. P. WESTERVELT.

OFFICERS FOR 1903.

President ..... F. H. GISBORNE, Ottawa.
1st Vice-President ..... W. H. REID, Kingston.
2nd Vice-President ..... C. J. DEVLIN, Ottawa.
Secretary-Treasurer ..... A. P. WESTERVELT, Toronto.

Directors :

Division No. 1 ..... J. H. WARRINGTON, Cornwall.
" 2 ..... F. J. BLAKE, Almonte.
" 3 ..... W. F. GARLAND, Hintonburg.
" 4 ..... Rev. S. T. BARTLETT, Napanee.
" 5 ..... G. H. HIGMAN, Ottawa.
" 6 ..... C. J. DANIELS, Toronto.
" 7 ..... F. C. HARE, Ottawa.

Representatives to Toronto Exhibition..C. J. DANIELS, Toronto; A. P. MUTCHMORE, Ottawa.
" *Ottawa Exhibition*..G. H. HIGMAN, Ottawa; F. H. GISBORNE, Ottawa.
" *Winter Fair, Ottawa*.F. H. GISBORNE, Ottawa; G. H. HIGMAN, Ottawa; F. J. BLAKE, Almonte.

Auditor ..... J. M. DUFF, Guelph.
Judges of Poultry ..... SHARP BUTTERFIELD, Windsor; L. G. JARVIS, Montreal.
Judge of Pigeons ..... CHARLES MASSIE, Port Hope.
Superintendent of Show ..... R. E. MCKINSTRY, Ottawa.

FINANCIAL STATEMENT OF THE EASTERN ONTARIO POULTRY ASSOCIATION.

Receipts.

Cash on hand	$ 231 62	
Legislative grant	2,000 00	
Entry fees	378 30	
Gate receipts	117 70	
Membership fees	94 00	
Interest	6 82	
Total		$2,828 44

Expenditure.

Printing	$57 85	
Judges' fees	106 85	
Feed	28 32	
Expenses of Executive	18 50	
Advertising	7 50	
Prizes paid	1,320 85	
Express on coops	48 30	
Superintendent and assistants	97 80	
Lecturers' expenses and meetings	31 30	
Office work and judges' clerks	53 50	
Sundries	2 95	
Auditor, insurance premium, etc.	14 64	
By cash on hand	1,040 08	
	$2,828 44	$2,828 44

Audited and found correct.

J. M. Duff, Auditor.

F. H. Gisborne, President.

A. P. Westervelt, Treasurer.

NAME AND ADDRESS OF MEMBERS FOR 1903, AND VARIETIES ENTERED.

Allen, Jno. O., Scotch Line ..... Buff Leghorns.
Allen, J. S. Ottawa ..... Orpingtons.
Avery, H. C., Ottawa ..... A. O. V. Fowls.
Andrews, Fred. A., London ..... White Rocks, Black Minorcas.
Armstrong Bros., Fergus ..... Barred Rock, Dressed Poultry.
Alpaugh & Gow, Fergus ..... Barred Rocks, Spanish, and A O. V. R. C. Leghorns.
Becker, H. F., Waterloo ..... S. C. Br. Leghorns.
Benjamin, E. H., Ottawa ..... Pit Game.
Burrmont Pigeon Lofts, Ottawa ..... Pigeons.
Barker, R. K., Toronto ..... Pigeons.
Blyth, A. C., Toronto ..... Light Brahmas.
Bessey, W. H., Coleman ..... White Plymouth Rocks.
Bartlett, Rev. S. T., Napanee ..... Buff Wyandottes.
Blake, F. J., Almonte ..... Silver Wyandottes.
Berner, G., Toronto ..... Buff Leghorns.
Bogue, G. & J., Strathroy ..... Cochins, Javas, S. G. Dorkings, Silver Wyandottes, Spanish, White Minorcas, R. C. Leghorns, A. O. V. Game, Polands, Houdans, Red Caps, A. O. V. Fowls, Ducks, Dressed Poultry.
Barber, Wm., Toronto ..... Games and Game Bantams.
Barber, Vic., Toronto ..... Black Red Game Bantams, and Pigeons.
Bristoe, J. R. K., Ottawa ..... White Wyandottes.
Bell, A. W., Toronto ..... Buff Cochins.
Craig, Geo. E., Ottawa ..... Silver Sebright Bantams.
Cullen, D. S., Drumbo ..... White Wyandottes, W. C. B. Polands, Orpingtons.
Cosh & Co., N., London ..... Barred Rock, Buff Wyandottes, Andalusians and Orpingtons.
Coates, R. C., Thamesville ..... S. C. W. Leghorns.
Cumming, D , Russell ..... Buff Plymouth Rocks, Spanish, Indian Game, S. Sp. Hamburgs, Turkeys, Sebright Bantams, Geese, Ducks, and Dressed Poultry.
Coffee, A., Kingston ..... Black Minorcas.
Currier, Price & Bell, Toronto ..... Pigeons.
Daniels, C. J., Toronto ..... Javas, Plymouth Rocks, Golden Wyandottes, S. C. W. and Black Leghorns A. O. V. Game, Red Caps, Orpingtons.
Delcorde, A., Ottawa ..... Golden Wyandottes, Black Minorcas, Orpingtons, A. O. V. Fowl, Pigeons, Belgian Hares.
Devlin & Jacques, Ottawa ..... Barred Plymouth Rocks.
Depres, A. C., Hull ..... Buff Cochins, Buff Cochin Bantams.
Dunne, H., Toronto ..... White Minorcas.

NAME AND ADDRESS OF MEMBERS.—*Concluded.*

Dewey, E. J., Toronto.....Black Langshans.
Dundas, Jas., Deer Park.....Buff Leghorns.
Durston, Robt., Toronto.....Black Minorcas.
Fortier & Nantel, St. Jerome, Que..Brahmas, Cochins, Games, Hamburgs, Polands, A.O.V. Fowls, Bantams and Pigeons.
Fidder, J. E., Brockville.....Barred Plymouth Rocks.
Frith, E. R., Maxville.....Black Minorcas.
Gill, J. Jno., Ottawa .....S. C. White Leghorns, Buff Cochin Bantams.
Graham, A. W., St. Thomas .....Buff and Golden Wyandottes.
Graham, T. J.. Mosgrove .....Barred Plymouth Rocks and Orpingtons.
Gisborne, F. H., Ottawa.....
Hillman, Jas., East Angus, Que. ..Buff Leghorns, Indian Game.
Hintonburg Poultry Yards, Ottawa..Barred Rocks, Silver Wyandottes, Black Minorcas.
Harrington, Jno., Russell .....S. C. Br. Leghorns.
Higman, Geo., Ottawa.....Buff and White Wyandottes.
Henry, Wm., Toronto .....Houdans.
Isbell, J. C., Toronto .....Pigeons.
James, F. A., Ottawa.....Barred Plymouth Rocks.
Jardine, Jas., Almonte .....S. C. White Leghorns.
Kingsmill, Jr., T. F., London. .....White Wyandottes, Orpingtons.
Kerr, N. J., Ottawa .....Golden Wyandottes.
LaRose, Chas., Cornwall.....Light Brahmas, Barred and White Plymouth Rocks, Andalusians, Golden Wyandottes, Golden Sebright Bantams
Latta Bros., London.. .....Cochins.
McNeil, Wm., London.....Polands and White Cochin Bantams.
McKellar, D., Ottawa .....S. C. White Leghorns.
McCurdy, Robt., London .....Black Langshans.
McInnis, T. C., Iberville, Que.....Wyandottes and Spanish.
Marshall, A. G., Ottawa.....Black Minorcas, Houdans.
McCurran, Jas., and Cunningham, Ottawa.....S. C. White Leghorns.
McKay, Richard, Hamilton.....Barred Plymouth Rocks.
McGregor, P. F., Almonte.....Golden Wyandottes.
McMaster Bros., Laggan.....Geese and Ducks.
Magill, J. H., Port Hope.. .. . .
Neilson, Jas A., Lyn .....Pencilled and Golden Sp. Hamburgs and Ducks.
Oke, Rich., London.....Partridge Cochins, Javas, R. C. W. Leghorns, Hamburgs, Bantams, A. O. V. Fowls.
Ottawa Pigeon Lofts, A. P. Mutchmore, R. E. McKinistry, Ottawa...Pigeons and Doves.
Osborne, W. M., Brockville . .....White Minorcas, Black Leghorns.
Olmstead, C. C., Ottawa.....Orpingtons.
Plant, W., Ottawa.....Buff Cochin Bantams.
Pritchard, Jas. N., Wakefield, Que..Light Brahmas, Barred Rocks and Indian Game.
Player, W. J., Galt . ..... S. C. Brown Leghorns.
Pickard, J. J., Drumbo .....Light Brahmas.
Roos, P. H., Waterloo.. .... Buff Leghorns and Orpingtons.
Robertson, Robt. A., Billings Bridge..Orpingtons and Turkeys.
Richardson, Jno. A., South March..Geese, Pea Fowl.
Reid, W. H., Kingston .....Javas, S. G. Dorking, Buff Wyandotte, Buff Leghorns, Black Hamburg, Bantams, Pigeons, Ducks.
Sage, L. C., London .....Dark Brahmas.
Short, S., Ottawa.....Barred Plymouth Rocks.
Strang, Robt., Ottawa .....Pigeons and Doves.
Skinner, Geo., Ottawa .....S. C. White Leghorns.
Stewart & Son, Menie .....Dorkings, Black Minorcas, Leghorns, Hamburgs, Silver Polands. White Cochin Bantams, Ducks, Dressed Poultry.
Stanley Poultry Yards, Ottawa .... White Wyandottes, S. C. White Leghorns.
Sinclair, P. D., St. Elmo.....Geese.
Taggart, W. J., Ottawa .....S. C. Brown Leghorns.
Teale, W. J , Guelph.....White Langshans.
Thomas, Geo., Cummings Bridge....Belgian Hares.
Tozer, H. R K., London .....R. C. Brown Leghorns, Brown, Red and White Cochin Bantams.
Thompson, Arch., Allen's Cor's., Que..Turkeys, Geese, Ducks, Dressed Poultry, White Plymouth Rocks.
Waterloo Poultry Yards, Waterloo..R. C. White and S. C. Brown Leghorns.
White, Geo. J., Hamilton .....Pyle Games, Brown, Red and White Cochin Bantams and Pigeons.
Warrington, J. H., Cornwall.....Dorkings, White Plymouth Rocks, White Wyandottes, Spanish, S. C. Brown Leghorns, Pit Game, Red Caps.
Walker, Jas., Fergus..... Barred Plymouth Rocks.
Wallace, Wm., Ottawa E..... .Black Minorcas and Orpingtons.
Wallace, H. H., London ..... White Plymouth Rocks and Ducks.

THE PROVINCIAL WINTER FAIR.

PUBLIC MEETING.

The public meeting held in the City Hall was opened by a few cordial words of welcome from Mayor Kennedy in behalf of the City of Guelph.

CHAIRMAN'S ADDRESS.

By Hon. John Dryden, Minister of Agriculture, Toronto.

On behalf of the Association of Stockmen and Poultrymen, under whose auspices this Winter Fair has been organized, I wish to express the appreciation felt for the kind words uttered by the Mayor. We are all glad that there was at least one town in this Province that felt interest enough in the work we have in hand to undertake to spend a considerable sum in order to provide a suitable building for us.

I intend to take only sufficient time to-night to mention four things, which I should like you to take away with you. The one thing you should all have after attending the Winter Fair of 1902 is a greater measure of information. There never was a time in the history of Canada when our agriculturists were hungering and thirsting for information as they are to-day. Someone very well said that education is about the only thing lying around loose of which a man could have all he could carry away. You will get some of this information from the lecture room ; you will get it also by conversing with each other, and I hope you will get some of it here to-night.

The second thing that I want you to take away with you is a greater measure of inspiration. There is such a thing as becoming inspired on occasions like this. I used to get this inspiration when I was a young man, and I desire that the young men especially should go from this exhibition with a greater measure of inspiration, and, I might say, a greater measure of enthusiasm. If there is anything we need as agriculturists it is enthusiasm. We must live and work out our problems all alone ; we are isolated to some extent, and have to use our own brains, which is what they were given us for. When we come to gatherings like this we mix with others who are thinking and working along the same lines, and we go away with more enthusiasm.

Then I want you to go away with a greater measure of unselfishness. If there is any man in the wide world who ought to be unselfish and help his neighbor it is the farmer. We are all tied up together, and although you may be producing a superior article, if I am producing an inferior one, I am hurting you. Some people think that because they know a little more than you and I do, they have an advantage, and they will not give you the information. We must get away from that idea. "Let us have light," as I have heard a speaker say in Chicago. He said if there was one sentence he would like to put up that all might see it, it would be that one. I desire to echo it. I hope you will all feel that it is your duty to help your neighbor, and to stand by each other. Let us undertake to make our products more perfect than ever before, and we shall all feel the benefit. If you carry away any of these things from this Winter Fair, I shall feel that we have not held these meetings in vain.

A TRIBUTE TO ONTARIO LIVE STOCK MEN.

By Prof. Curtiss, Ames, Iowa.

It is the farm—the environment of the farm—that has given rise to the great minds of all countries. There are exceptions to this, of course, but it is nevertheless true that the conditions surrounding the young man on the farm will develop strength of manhood and character, and these things count most in all directions of life. I like the work you are engaged in, because it puts a premium on excellence. Not only so—because you must excel in this industry to win—but, further, it puts a premium on integrity. I believe, as I have said before on such occasions, that there is no single occupation or calling in which personal character—the personality, integrity and moral standing of a man—counts for more than in the production and improvement of live stock. A man's integrity becomes a part of his character. If he is engaged in producing superior products, and especially if he is in the pure-bred live stock business, his integrity of character is to a large extent his capital, and affects the value of every animal he breeds. That integrity of character not only adds to the value of an animal if he disposes of it, but it extends to the owner after it has passed into other hands, and to the produce of the stock. So that the standing of a man engaged in the work is an element which we cannot afford to underestimate.

There are features that appeal to us on an occasion such as this. As the Minister of Agriculture has said, opportunities are afforded for throwing more light upon this work, and for developing the best methods and the best possible results. We come here on such an occasion as to school. Every man engaged in this great work must be a student in the practical school of life every day he lives. Whenever he ceases to be a student, then he will cease to hold his position in the foremost rank. The work requires the highest degree of intelligence that can be brought to bear upon it, and the conditions that confront the producer of agricultural products to-day are such as to emphasize this. During the last few years, when high prices have prevailed, especially for live stock products, there has been less discrimination than there will be in times of lower prices. The tendency towards a lower level has already set in, and you can see that discrimination operating at once. Whenever there is a scarcity of products there is less to select from and less possibility of discrimination and nearer a uniform level of prices: but the moment more unfavorable times set in, such as we must expect in the near future, at that moment you will find that excellence will command a premium, that the product of ordinary standard will fall back, and that the product of minimum excellence will fall still further below.

I like this show for the reason that you have developed here methods and a plan of management which enables you to carry your tests to the ultimate conclusion: to study the animals not only as they come before you in the show ring, but to go still further and study them on the block and find out the real points of essential difference. That is one of the most important factors that can be taken into consideration. Most assuredly we want to know what the final test is. Market conditions are continually changing. The man who produces products for the market according to the standard that prevailed ten years ago, will be a loser to-day. We must study these demands, and keep pace with modern progress; so we come together in this capacity as students in a great school of practical instruction, and it is a pleasure for me to come across the line and mingle with you. I assure you it is a pleasure to the people of our side to see you people coming across and

meeting us in friendly rivalry with your products as you do. Whenever you come, you always bring products that are a credit to your country. This is a well-known fact. I believe also in mingling the blood of the Canadian and the Yankee, as well as the live stock of each country. We have drawn upon your people as well as upon your live stock, and I believe we have done so with great advantage to our own interests. We have had in our College and on the faculty a good many boys who have come from this side and from this College here, and I am glad to take the occasion to say that they are among the best men we have ever had. They have been a stimulus to our young men, and an inspiration to better work. In the students' judging competition, held last week at Chicago, the two students taking the highest rank on the winning team were Canadian boys. It is not the first time that has happened ; so that we appreciate the value of this kind of a meeting, and the value of the work you are doing here, and its good influence as it extends throughout your country, and casts its munificent influence over our own country as well.

THE IMPORTANCE OF THE AGRICULTURAL INDUSTRY.

By C. C. James, Deputy Minister of Agriculture, Toronto.

It occurred to me when invited to address this gathering that I might be permitted to talk along lines that I have taken occasion at other places to present to the people, and if I repeat myself, it will be because I consider the subject of great importance. It has occurred to me that I might say something to this audience—the most representative agricultural audience that has gathered together in the Dominion—about the importance of the industry with which we are connected. The farmers of this country should have clear and correct ideas of the importance of the industry with which they are associated ; the men who are placed over this country to govern and direct it, certainly should grasp the importance of the subject, because they are called upon to legislate in regard to it, and to make grants of money to aid and assist in the development of this great industry, and the people as a whole should understand and appreciate this that they may approve or disapprove of what is being done by those in power.

Will you allow me for a minute or two to refer to the importance of this great agricultural industry in the country that has sent Prof. Curtiss to us to-night ? There are about forty million people living on the farms of the United States. They have invested in agriculture no less a sum than two billions of dollars ; more than four times the amount that is invested in all the manufacturing industries of the United States. The value of the annual products coming from the labors of these forty million people upon five and a half million farms amounts to five billions of dollars. Let me give you a few of the principal items making up that sum : Animals sold and slaughtered, one billion ; dairy products, four hundred and seventy millions ; wheat, three hundred and seventy millions ; poultry and eggs, two hundred and eighty millions ; oats, two hundred and seventeen millions, and so on down the list. The capital invested in this great industry in the United States has doubled in the last thirty years, and so have the products. One more point before I leave the United States and come nearer home. The manufacturing establishments of that country draw upon the products of the farm, the mine, the forest and the waters for their raw material. From the farm there comes no less than 81 per cent. of that raw material. I give you these figures to show that in the country to the south of us, agriculture

bulks up away beyond every other industry ; it involves in its work the largest number ; it has engaged in it a far greater amount of capital than any other industry ; and it is the basis of 81 per cent. of the great manufacturing industries.

One moment for comparison with our own Province. We have invested in the agriculture of this Province as its capital no less than one billion of dollars. There is a suggestion in that: if agriculture plays so important a part in the great life and work of the United States to the south of us, it plays a still greater part in the Province in which we are living. We have one billion invested against their twenty, that is one-twentieth. But this Province by population represents only one-fortieth. Therefore, if agriculture plays so important a part for the whole of the United States, it plays a still greater and more important part in the life and work and wealth and energy of this Province. We produce on the farms of this Province, from our live stock, our dairying, and our poultry raising, a sum that aggregates nearly ninety millions of dollars every year. During the last four years the live stock on the farms of the Province of Ontario increased in value by an amount not less than thirty-six millions of dollars, and the sales from the farms of live stock and their products increased in the same period no less than eighteen millions of dollars. This would seen to point to the fact that the Province has not merely been holding its own, but it has been steadily advancing. Eighteen millions of dollars is a large sum ; it is equal to the entire gold output of the Yukon ; and when it is distributed over the country, you will see that prosperity has come, not from the towns and cities, but to a large extent from the farms of this Province ; and the key to the situation in regard to the prosperity of our farmers has been the great development, improvement, and increase that have taken place in our live stock industry.

But why make this comparison between the Province of Ontario and the United States ? Because we are so closely associated ; because we are a similar people, working towards the same end, working with the same kinds of stock on our farms, and working along similar lines ; and when we hold up before us the great agricultural industry of the United States, we are simply looking ahead a few years, and seeing what is in store for the agriculture of this country, if we are wise enough to develop it along proper lines.

We have reached a turning point in the history of Canada. We have been watching for this turning point for a great many years, and while we have been watching for it, we have heard a great many complaints, and a good deal of grumbling ; and perhaps we shall find in the future that the same people will be inclined to grumble because we are growing too fast. What is the turning point ? They have reached a point across the line when all the available cheap land has been taken up, and we have seen this year a host of people leaving the United States and coming into this country. To us it may seem a great deal, but what is 100,000 out of the forty millions who are living on the farms of the United States ?—one out of every four hundred. They could continue losing one hundred thousand every year, and their great agricultural industry would never feel the effect of it. It is true there are large areas of land still left in the United States, but these lands to a large exent are in the hands of the great railroads and other corporations that hold them at a high figure. In addition to this, there are lands located in the arid regions, which must be irrigated at the cost of a large sum of money.

There is another point in connection with this matter which I did not

fully realize until I had a conversation recently with a man who is interested in bringing Americans into this country. I said : "Why are your people coming here to take up land ?" He said : "In the great agricultural States of the central and western portions of the United States from, 40 to 50, and even up to 60 per cent. of the farmers are living upon rented farms ; these men are looking for farms to buy ; they want farms that are cheap and productive ; cheap, productive farm lands are not to be had in any quantity in the United States ; they have recently found out that here you have such lands in large quantities." Therein lies the secret of the movement that has just started. So that if we read the times aright, we may expect that we shall see within a few years an enormous increase in the rural population of the population of the Northwest, British Columbia, and Manitoba ; and let us not forget, also, the northern lands of our own Province of Ontario and the adjoining Province of Quebec. You have been surprised to learn that to the north—in the cold and somewhat unforbidding north, as most of us have been accustomed to think of it—there are to be found enormous stretches of land that can readily be made available for agriculture. What next ? These hundreds of thousands of settlers from the other side are beginning to move northwest across the imaginary boundary line into our own country. What is next going to happen ? What do we see already ? Since this movement has started we begin to hear not of one, but of two great transcontinental roads to be pushed forward through that great country. Why ? Simply because the farmers are going there ; the farmers are compelling these railroads to go there. Great railroads mean great manufacturing industries ; so you will see there exemplified what you have seen in this Province—that just as surely as you begin to build up the agriculture of a country, the other great industries which hinge and depend upon it will at once begin to be set in motion. These industries do not come first, but agriculture in its various lines and phases being developed sets in operation these other great movements. What is this going to mean to the Province of Ontario—what will be the effect on the agriculture of this Province through the building up of Manitoba and the Northwest and the northern part of our own Province ? The grain-growing of Manitoba and the Northwest will certainly develop to an enormous extent, and we shall then be compelled as an agricultural Province to realize more fully than ever that the farmers of this Province must depend not upon grain growing. In connection with our great fruit industry, it is quite possible to see that industry receiving an enormous impetus, because throughout the lands to the north fruit growing will to a large extent be an impossibility, so that as these lands fill up our fruit growers will prosper exceedingly. In dairying they may be our competitors to a certain extent ; but when we come to the question of live stock, we feel then that we stand upon sure ground. As Manitoba, the Northwest, and our own north fill up, we shall find that the live stock interests of this Province will become more and more important ; so that while we may not be able to compete in the growing of grain or along all lines in connection with the making of butter and cheese, we shall expect and hope to be able to profit along the lines of our live stock industry ; and if this industry is the great corner-stone upon which the successful agriculture of this Province is built, then we may expect, if we arrange our affairs right and direct our education properly, to see developed in this Province an industry that shall far surpass the position it has hitherto obtained. Ontario must shape her course so as to maintain her position, the position she now holds, of being the greatest and most important live stock breeding section of the North American Continent.

What are the demands made by the live stock industries for their successful development? In the first place, we must have good strains of live stock. If we turn back to the early history of this Province, I think we can trace the fine pure strains of live stock which we have to-day to the Old Country settlers who came in many years ago and brought with them a love for live stock developed in them in the old land before they crossed the sea. Now we have the foundation on which to build.

We need, in the next place, good grass or forage, clean water and clean air. If you look at the geographical situation of this Province, I think you will conclude that there is no other portion of the continent so well suited, so far as its natural grass and forage, its clean water and pure air are concerned for the production of pure-bred stock. But these things alone will not give good stock, or keep us abreast of the times, or enable us to develop this great industry. Above all this we must have the best stockmen of the world. We have had, I think, as good a class of stockmen in this Province as any part of the North American Continent. Going over the list of the patrons of the live stock arena—the men who have built up the magnificent flocks and herds of this Province—we find that many have already passed away, and within the next ten or fifteen years our live stock interests will be in the hands of their sons and grandsons. This Association and the Agricultural College nearby, the great fairs of this Province, and all the other movements that are being inaugurated, will not be doing their duty to this country unless they see to it that the young men now coming up receive the best education and training that is possible. The hope of this great industry depends upon the young men. As the prosperity of this Province depends so much on the output of our live stock interests, you can see how the future of this country is so intimately wrapped up with the proper development, encouragement, and training of these young men. This live stock interest is the greatest interest of this Dominion to-day. I doubt very much whether the men at the head of our Government or the people at large, or even you live stock men yourselves, have grasped the importance of it, and fully appreciate what it means to you and to the country generally.

Let us take away from this meeting a proper appreciation of the great importance of this industry, and let us see to it that in the laws of this country, and through the various departments of this country, the industry receives the attention it deserves. It sometimes makes me stop and wonder at our lack of foresight when I think that we have Governments willing to spend enormous sums of money in connection with the development of transcontinental roalroads, fast steamship lines—all good in their way—and on other similar projects, but at the same time not realizing that the live stock industry is, after all, the great industry of this country, and that just as it is developed and improved, the wealth of this country will be developed and improved. If we have the nerve in this country to think of voting a million dollars a year for a fast steamship service, surely we ought to have the energy and acumen to see that large sums are appropriated for the upbuilding and strengthening of this, the foundation industry of our commonwealth.

ADDRESS.

By Mr. Arch. MacNeilage, Glasgow, Scotland.

I want to say something about the impressions made upon me by things here in Guelph, and something with respect to the public in the Old Country and their knowledge of Canada, and what you are doing to make Canada better known there. Last night I was very proud to address the members of the Experimental Union at the College. I have spoken to many audiences in my time, but I never rose to address a more inspiring one than that was as I gazed upon the faces of young Canada, and imagined I saw the unbounded possibilities for the future of this great Dominion stamped there. Since then I have attended the meetings conducted in your lecture room. Two things impressed me : the first was your determination to know, and, second, your frank admission of ignorance of many things. The first step in obtaining knowledge is to be able frankly to confess ignorance. The questions that were asked, the intelligence put into them, and the readiness with which they were followed up by other questions, gave me an idea of the means being used in the furtherance of the great industry of agriculture in this Dominion.

Will you permit me to refer to something else that impressed me ? As you are aware, I have for twenty-one years been Secretary of the Clydesdale Horse Society, and a writer during the whole of that period for agricultural journals. But even before that I was associated with agriculture. It was in the beginning of 1878 that I was first taken by an official in connection with the Horse Society on my first visit to one of the old breeding studs to interview one of the old Clydesdale horse owners. I was offered strong drink, in order that I might refresh myself, and then announced what I have never been ashamed to declare, that I did not know the taste of strong drink, and had no intention of beginning. My venerable friend, who had been brought up in another school, made this observation. He turned to me and said : "If you will no take your dram, you will be no use among the horse men." Unfortunately, there was a great deal of truth in his observation. Such a gathering of agriculturists as we have here—and I bring no accusation against my native land—would not be possible in the old land without an immense amount of tippling. Here I have neither observed a case of tippling, nor anyone giving the least indication of being under the influence of strong drink. I am going to take home that fact to the old land and proclaim it to all such meetings as this, and I am going to say, as I say now, that, great as are your possibilities for the future, as indicated in the scene I witnessed last night and in the meetings to-day, the moral courage and manly resistance of the men engaged in agriculture in Canada has in it even a greater promise for the future of this Dominion than those things to which I have referred.

I indicated that I intended to say something concerning the attitude of the old land towards Canada—that is to say, concerning the knowledge generally prevailing in the old land regarding Canada. Of course, occasionally we have a speaker who tells us that the British flag waves over an immense territory, extending from the Atlantic to the Pacific, and that this territory extends from the great lakes to the Arctic circle ; but somehow, we have seized upon the last phrase, "Arctic circle," and have forgotten the rest. I speak for the average man—the man on the street. His ideas for the first time underwent a complete revolution when he beheld the Canadian exhibit at the Glasgow Exhibition in 1891. There never was a better thing done

for the advertising of Canada in the old land than the organization of the Canadian exhibit at that fair. It showed us that Canada was not within the Arctic circle, and that other things were produced here besides forests; it led us to believe that it was possible to live in Canada without being in the condition of the fur traders of the far north; also that Hudson's Bay was not all Canada, and that it might be possible to grow apples in British Columbia. What I have to ask our friends in charge of these matters is: What are they doing to follow up the unquestioned gain they obtained on that occasion? What are they doing to send home the great lessons of that exhibit, to teach us and those who would be your best citizens and settlers that Canada is a place that is worth while settling in? I am not going to find fault with what they are doing, but I venture to suggest that all that is being done is not sufficient. There are districts in the old land that ought to be treated in some direct way in order that you might secure the same class of settlers as those who a century ago settled in Cape Breton and the Eastern Provinces, and who, I believe, are not in their descendants to-day the worst settlers that ever came to Canada. Let me describe the situation of our rural population in many districts. One hundred years ago a great movement set in among the great landlords of the Highlands, a movement for the displacing of men and the establishment of sheep. Whole fertile districts of the north were cleared of the men, women and children, and in their place came the great flock masters of the border districts. Some of the men who were displaced emigrated to Canada, which was a great undertaking in those days, and I have already indicated the class of settlers they were. Others stayed on the sea shore and led a precarious existence, as their children have done since, following the pursuits of crofters and fishermen. But the whirligig of time has brought a strange revenge, for now the sheep are being dispossessed, and in their place there comes the deer forest. Agriculture in the form of flocks and herds is fading away, and in its place are coming American millionaires, whose sole aim and object in the Highlands is to enjoy themselves in hunting the deer, etc. On the Island of Lewis there is a population of 30,000 living under conditions that are entitled to support a population of only half that size. They are thrifty, God fearing, and the highest moral section of the population. Morality is higher there than in any other district. Is not that the kind of population who would be a blessing to have settled on the extensive prairies of your great western territory? I ask what steps are your leading men taking to let these people know that there are homes for them in Canada, where they could live and build up settlements that would add strength and stability to the Dominion in years to come. I venture to throw out the suggestion to-night in the presence of your distinguished Ministers of Agriculture for the Dominion and for the Province of Ontario, that here there is an untapped source of the most desirable class of immigrants for the Northwest and New Ontario, and that means should be devised for letting these people know in such a way as will commend itself to them, and to their consciences and better judgment, as sound advice and good information—letting them know what would be in store for them here, and how they might better their condition in this glorious land. This is the main thing I wish to say to-night; yet one or two other things occur to me in viewing this audience. To-day I had the privilege of introducing the Deputy Minister of Agriculture for British Columbia to the Deputy Minister for New Brunswick. It was a symbolical act, that I, from the little land of Scotia, which you might drop into one of your great lakes—surely it was a significant fact that it should have lain with me to introduce

these two gentlemen, to bridge the three thousand odd miles between the Provinces and to see for myself the symbolical representation of the great territory which has here been given and remains under the British flag.

Before I resume my seat I want to extend to every one connected with the Department of Agriculture my warmest personal gratitude for the invitation which brings me here; for the opportunity it has afforded me to acquaint myself with the aim of the agriculture of this Dominion, and for the honor to the profession in which I glory, that of agricultural journalist, and, above all, for the privilege of meeting here representatives of the vast British Dominion, over which the Union Jack so gloriously waves.

ADDRESS.

By Hon. Sydney Fisher, Minister of Agriculture, Ottawa.

I wish to say to the farmers of Ontario this evening that other parts of Canada are looking to them in connection with agricultural questions, and that they are accepting this Fair as a model to be followed. Last winter, just after your last Guelph Fair, there was inaugurated at Amherst, in Nova Scotia, a similar fair to this. It will be repeated this year, and become, I venture to say, an established fact in the agriculture of the eastern part of Canada. So successful was it, that Amherst immediately after the meeting voted $12,000 to put up a permanent building, so that this show should be as permanent as the Guelph show. I am going to indulge in a little prophesy. It is that next year in Ottawa there will be another Fat Stock Fair to serve the people both of the eastern part of this Province and also the western part of the Province of Quebec. I hope that in the near future the Province of Quebec itself, and Manitoba and British Columbia will follow the good example, and that we shall have these meetings all over Canada, doing good each in their particular locality, the great good that this gathering has done for you and for the whole Dominion.

I suppose I am here in a way as representing the Dominion Government, to which Mr. McNeilage appealed to know what we were doing to bring the good people of Scotland to Canada. The Dominion Government has been doing much for years past, and perhaps it is partly due to that that you will find the Scotchman all through Canada; and wherever you find him, you will find him in the forefront of progress and development of this country. In this audience there are many men who were born in Scotland, and still more whose parents were born there. I do not think that the reproach can lay very near to us when we have Mr. MacNeilage here with that object and for that purpose. He has confessed that he came at my invitation, and I do not know of anything we could have done better calculated to spread in Scotland a knowledge of Canada's agriculture than to bring the editor of the Scottish Farmer here and let him see for himself. When he returns home he will tell these people on the Island of Lewis what he has seen here, and how prosperous the people of Canada are to-day. We have done a good deal in the past, and perhaps the best proof of it is that during the past year over thirty thousand people from the British Isles have come to Canada to make their homes. We welcome them all, and are glad to have them come among us, because we know they are bone of our bone, and blood of our blood. We are able to give them homes, and give them land free, land of the most fertile character, and lying in the best situation possible to make

farms, and they come here free citizens of a free country under that British flag of which we are so proud.

Let me say a word to you as the live stock men of Canada. Your industry this year has been immensely prosperous ; we have had good prices for everything. Our meat has been in demand—our bacon, our butter, our cheese, poultry, and eggs—and there has been only one difficulty in the Canadian trade in these articles, and that is that the buyers have not been able to get enough of what they wanted. We are not producing as much of these commodities as the foreign market will take ; we are not developing this portion of our production as rapidly as the demand is increasing. It is a happy state of affairs ; one which may not, perhaps, continue for long, certainly cannot continue always ; but I venture to think, after looking over the ground, that for another year or two the demand for these articles is going to be greater than the supply. We know that in the American Union the population is increasing by millions every decade, and that up to the present time their live stock production has not entirely recovered from that depression which existed until five or six years ago, and I venture to think that they will not in the near future be as important a competitor in the Old World markets as in the past, because their home market is developing more rapidly than the supply is increasing. Then in our own country our own market is increasing, not only by those we are bringing into the country, but also from the fact that the purchasing power of every individual in Canada to-day is larger than it has ever been, and our people are living better than they ever did, consequently our own market is better for the food products of our farms than ever before, and that the home market is bound to increase largely and rapidly.

But we must see to it that the qualtity of the articles we produce and export is of the highest. If to-day our cheese commands such a high price, it is because it is of the highest quality ; if our poultry commands a high price, it is because it is of a good quality. A little while ago, Professor Curtiss spoke of a possible check in the general prosperity. The moment that comes about, those who produce a common article of low quality will feel the check first. Let us see to it our products are not the first to feel the check. I am glad to know that the intelligence, activity, and energy of our Canadian farmers have largely been directed in the line of improving the quality of their goods, perhaps even more than their quantity.

Our live stock trade is in a healthy, hearty condition. You control that trade. You must, therefore, continue your efforts and see to it that the trade is kept up to the present high mark.

There is, however, a cloud on the horizon in connection with this industry, possibly no bigger than a man's hand, but which might spread at any moment over the whole heavens. It is a threat of contagious disease among our animals. We have an example of it in the New England States in the outbreak of foot-and-mouth disease. This has been no great blow to the live stock interests of the United States, because it applies to only a portion of the United States, and, second, because they have a most complete organization of the dead meat trade. If their live animals are shut out, they have all the facilities necessary for carrying the meat forward in its dead state, and they could make the change in a very short time. But, and I speak to you as stock men, if there were to occur a case of contagious disease in Canada to-morrow, and the markets of the old land were to be shut to us, we have no organization of the meat trade ; no abattoirs to slaughter our animals, no facilities for the preservation of that meat if it were prepared, and conse-

quently such an occurrence would be an almost fatal blow to our live stock trade.

Let me tell you here, and I speak positively, that there is no contagious disease in animals in Canada to-day ; that every precaution and every safeguard will be used, it matters not what pressure may be exercised, to see that the live stock of Canada are carefully safeguarded and protected against the introduction of disease to this country. In the States they have a complete veterinary staff at Washington, headed by one of the best veterinarians of the world. These men have been watching these things, and trying to save the live stock of the United States from the introduction of disease, and yet it is found right there where their animals are thickest. It might occur here at any moment, no matter how careful the authorities may be. Such things have occurred in the Old Land. What I want to emphasize is that I believe the day is coming, and is not far away, when the dead meat trade must be organized in Canada, so that if such an incident were to occur here we should not be put to an enormous loss. We have an example of what can be done in this way in the bacon trade of Canada. You all know how that business has grown. The same thing could be done with the dead meat trade, but it will require just the same business capacity, just the same organization, and command of capital as was required for the organization of the packing houses and the establishment of the bacon trade.

The conditions in the United States to-day are that this trade is in the hands of great corporations, of which I am no particular friend ; but there are certain trades, possibly a great many, in which things must be done on a wholesale scale to be successful. In an organization such as I am speaking of—of an abattoir system, and of preservation facilities to carry our meat forward dead—it is necessary to have a large accumulation of capital, and the management of good business men. I want to call the attention of stock men and the capitalists of this Province to the opening in this direction. I am quite sure that the difficulties that have been felt in the past, and have hindered the successful establishment of the dead meat industry in Canada, are in such a position now that they can more successfully overcome than in the past. The time has come when there is a sufficient market in Canada for all parts of the animal to be successfully utilized. This has been the great obstacle in connection with this business in the past. This being the case, I feel that the time is ripe for the establishment of a dead meat trade with the Old Country, and that it must be brought about in the interest of the live stock industry of this country. I want to impress upon you that if for any reason the markets of the Old Country were to be absolutely shut to the entry of our live animals, it would be a most disastrous thing, unless we had a dead meat trade to turn to. The breeders in the old land are particularly careful about the health of their cattle, and the mere suggestion that disease may be introduced is sufficient to bring about the instant shutting of their ports. It is right for them to guard their own interests ; but the danger is there, and we cannot shut our eyes to it. I consider this is a case where it is right and proper for those in responsible positions, who have facilities to study these questions and see more of them than the average man engaged in his own business—it is our duty to lay before the people interested in that particular business the things which we are able to see and find out, and, therefore, I have taken this opportunity to lay before you this idea, which I believe is of the utmost importance to the live stock interests of Canada.

Hon. John Dryden : I agree with Mr. Fisher that we ought to have this dead meat industry established. It horrifies one to think what would be the

result if disease were found in Canada just now. I hope we shall be able to announce to you a year from now that this industry has been started.

LECTURES DELIVERED AT THE WINTER FAIR.

BEEF CATTLE—CONFORMATION AND FINISH OF EXPORT CATTLE.

By Prof. G. E. Day, Ontario Agricultural College, Guelph.

There is considerable difference between judging a fat bullock and a breeding animal. The breeder takes into consideration the future usefulness of the animal for producing stock ; the butcher takes into consideration merely the amount of valuable meat an animal carries. For instance, a butcher judging an animal solely for the production of beef would pay little attention to constitution ; he would pay little or no attention to breed type, but he would estimate the character and the quality of the flesh the animal carries, and the amount of valuable carcass he would furnish when placed upon the block, so that in judging breeding animals there are some things not needed in judging fat animals.

I assume that every one here is familiar with the more valuable and less valuable cuts, but we might mention that from the front of the loin to a point about the middle of the rump we have the part of the carcass that sells for the highest price. This includes the porterhouse steak, back of which we have the sirloin steak, next the rump steak, and then the cuts of the round. Next in value comes the rib, and after that the round. These are important things to remember in judging a fat bullock, because we should emphasize in our judging those parts that are of the greatest value. For instance, an animal with a good round and a poor thigh would be more valuable than if the reverse were the case ; and while the round is valuable and must not be overlooked, it has not the value of the top of the back.

In judging the finished bullock that is simply to be killed, we need not concern ourselves about its constitution. It does not matter whether he has a heart or lungs or anything else ; if the meat is not there, no matter whether he has constitution or not, he is no good. With a breeding animal it would be very different.

In judging an animal I always look at it first from a little distance off, to get an idea of its general appearance. You will find a good many steers that incline a little to the dairy type ; that is, they are heavy in front, but lack depth as you go back. You will find that characteristic in steers from dairy strains. That is very objectionable, because the part over the shoulders is one of the cheap cuts, and we do not want a great amount of shoulder, as compared with the rest of the animal. You hardly ever see a well-finished steer but has considerable depth in front, but we do not concern ourselves with that in judging a fat steer, but along with that he must carry depth as he goes back, and especially carry his flesh well down over the hind quarter. The greater width you have along the back the better, and it should be carried right to the pin bones.

Aside from the general conformation, the handling qualities of an animal are very important. Handling quality is something I cannot well explain in words ; it is something a person must learn from handling animals. You should not be able to touch bone easily over the back, and the flesh should be continued well over the ribs. In a well-finished bullock there is a firmness and yet a mellowness that is characteristic. There is a difference between firmness and hardness, and between mellowness and softness or flabbiness. Some animals when you touch them give the impression of jelly under the skin. That indicates a lack of muscle or lean meat, and an excessive amount of loose surface fat which is of little value. On the other hand, there are animals that are hard to the touch; this is the case where an animal has been fed for a long time; and where it is excessively hard, it is an indication that there is an excessive amount of greasy, hard or tallowy fat, which is objectionable. A well-finished animal should not give very easily in the handling, but while it does give, it is springy.

There is another point which some judges attach a good deal of importance to. One of the leading judges of cattle in the United States goes so fas as to say that he can tell how a steer will kill out according to that peculiarity. He says that if you can put your fingers easily between the ribs, it indicates an animal that lacks in lean meat, because there is a lack of muscle. I believe there is something in this.

Along with good handling quality, we want an absence of anything like roughness. There should be entire smoothness over all parts of the animal—no bareness of the shoulder or prominence of the hook points.

Q.: What is the best age to have a steer finished at ?

A.: There is a difference of opinion. Some claim that baby beef lacks flavor. At the same time, I think that a steer that has been properly fed and cared for should go on the market very soon after two years old.

Q.: Can flesh be put on baby beef as cheaply as on older animals ?

Mr. Grisdale, Central Experimental Farm : The question of the production of baby beef is one of great importance. We have been conducting some experiments on that line. In the lot we have finished off, the meat was put on very economically, more so than in the case of older steers. To illustrate : We finished steers at 22 months weighing on an average 1,315 pounds. That beef cost us nearly five cents per pound. The first pounds were very cheap, and the later pounds dearer. The flesh of the young steers was quite as thick as in the case of aged steers of the same weight, and as good in color and quality of fibre, and in tenderness and juiciness it was much superior ; but, as Prof. Day indicated, it had not the same beefy flavor ; it was as tender as a chicken, but lacking in flavor.

As to the comparative cost of producing it : we are feeding a lot which to-day, eight months after the others were killed, only weigh 1,100 pounds,while their mates which were killed in March weighed 1,315 pounds. You will see what a difference there is. Both lots were fed on the same foods, and the difference will be that one lot will be a year older than the others.

Q.: What is the cost of the older beef ?

A.: We fattened older beeves, but did not raise them from calves. The great trouble in feeding baby beef is to get it through the first summer. If you give nothing but grass, there is a tendency to go back ; if you feed grain, it is very expensive. This year on a lot we tried we put them on pasture about half the time, and while they did not make any great gains, in fact, barely held their own, now that they have got on grain again they are making remarkable gains.

Q.: Are they pure-breds ?

A.: They are not registered, but well bred ; all quite as good as the common pure-bred.

Q.: What weight steers should be produced for export ?

Prof. Day : Twelve to sixteen hundred ; there are different classes export trade.

Q.: What is the weight of the steer before us?

A.: One thousand four hundred and eighty pounds.

Q.: How old is he ?

A.: Nearly two years.

Q.: Has he any weak points ?

A.: I think he has some. He is a little bare on the shoulders, is hardly thick enough along the top of the back ; it handles a little bar

Mr. Grisdale : Mr. Dunn, the exporter in Toronto, says that th favorable weight is 1,350 to 1,400. In the Ottawa district in Octob were exporting steers, and unless they were over 1,300 they would n them. The question of freight seemed to occupy their attention, an wanted them large, but our export trade is not the same sort as that cat by Mr. Dunn.

Mr. Dunn, Toronto : As to the age and weight for export stee consider that the best weight varies from 1,350 to 1,400 pounds. While is a gain in freight in sending a heavier animal, the difference in value o larger animal counterbalances it. In my early days we used to send up to eighteen hundred, but since then England, like Canada, has aband the larger cattle.

Q.: Why do they pay more in Chicago than in Toronto for an ex steer ?

Hon. Mr. Dryden : I have been trying to answer that question for years ; can Mr. Dunn tell us ?

Mr. Dunn : I cannot answer that.

Hon. Mr. Dryden : They both travel over the same railroad, only Chicago animal has 500 miles further to go.

Q.: Is baby beef acceptable ?

Mr. Dryden : Yes ; I would take it every time. If you go to the b hotels in Chicago you will get nothing else, and it will melt in your mou Now, as to the reasons for the difference in price, the first thing we wa in this country is a central market, a market where the stuff will be gather together in such quantities that buyers may be perfectly certain to find the what they want. When you can get a large number of a good class of stoc at one point, you can afford to pay more for it than where you have to do your purchasing over a wider area. Such a market would also attract buyers, and the competition would be keener. It would give rise to industries which would consume what are called the by-products. In a general way in this country these are wasted at present. In Chicago, packers can afford to sell the carcass at the same price as they pay for the living animal, and make a splendid profit out of the by-products.

Such a market would also enable the exporter to get a constant supply, and consequently he can get rates from the transportation and insurance companies on the basis of shipping a stipulated number.

In addition to this, there is a splendid market in the large cities of Canada for the best quality of beef. Unfortunately, our people do not really know what good beef is : they do not get enough of it : but the time is coming when we shall demand it. That time has already come in the United

ates. These are the principal reasons why we do not get as much for our st beef as they do in the United States, and I shall not be contented until get a similar condition of things in this country.

THE SELECTION AND BREEDING OF BEEF CATTLE.

By Prof. G. E. Day, Ontario Agricultural College, Guelph.

e subject allotted to me on the program is such a big one that I know where to start. I propose to run over a few points, and leave er for discussion. In the breeding of beef cattle, the first thing to look sire, because, as is frequently said, and truthfully, "The bull is half ." The cow influences her own progeny, but the bull influences the op of calves; and, so far as we know, his influence is as great as the e of the dam, and, in most cases, with a good bull, it is a great deal tent. We can easily appreciate, therefore, the importance of a good d a few dollars on the price of a bull is nothing as compared with the ges derived from getting a good animal in place of an inferior one. sometimes short-sighted in this matter, thinking we cannot afford to hat is demanded for a really good bull, and content ourselves with ing inferior. We forget that the bull's value is going to tell on every e produces, and if it means a difference of only one or two dollars per n the price of the steers produced, it would soon make up the differ- between the price of a good and an inferior bull.

he bull should, of course, belong to a special beef breed; I do not care the breed is. Some breeds are better adapted to certain districts others. Some men fancy certain breeds, and the one they fancy they do best with. I cannot tell you which is the best breed. I think that aps we are getting past the days of scrub bulls, although there are many ers who have not yet got up to the point of using pure-bred sires on r classes of stock; grade boars and grade rams are still far too common. Why is it important to know that a bull is pure-bred and comes of a l family? Every animal represents in himself a large number of ani- s, and his progeny is influenced by his ancestors. The individual animal two parents that show their influence in his progeny, and four grand- ents; so that going back two generations, you have six animals influencing e progeny. Of course, the further back you go, the less the influence will robably be. This shows the importance not only of the animal being a good individual, but of coming from a good family. If he comes of a strain containing a large number of inferior animals, the chances are he will leave stock like those inferior animals.

One very important thing about a bull is character. Sometimes you have to look twice at an animal to determine whether he is a bull or a steer —they lack masculine characteristics, have a hang-dog appearance, and are without vim and energy. This is not the kind of a sire to select. A good bull will carry himself well—like a gentleman, as I have heard Mr. Dryden describe it. An animal that possesses that characteristic is far more likely to be an impressive sire than one that does not.

With regard to his general description: we must remember that the ultimate aim of the breeder of beef cattle is to produce animals for the butcher's block, and the characteristics desired by the butcher must not be overlooked; but, of course, we must take other things along with them.

I have already pointed out these facts in a previous lecture, and it will not be necessary to refer to them again. But in addition to them, we must have, from the breeders' standpoint, a good constitution, which is indicated by large heart girth, great depth of chest, a full, prominent brisket, and forelegs set well apart, giving lots of room for the vital organs. These things indicate a strong, vigorous animal, that will have the constitution to get a vigorous progeny, which will be good feeders.

A great many other things might be mentioned under the head of constitution, such as general bearing, brightness of eye, and character of the head. All these things go to indicate an impressive animal, but I need not dwell upon them. There is also in the beef animal what we call quality, and quality is a thing that is difficult to describe. An animal of good quality possesses no excessive amount of bone; enough to give a good-sized frame, but not more than is necessary; the bone looks comparatively fine in proportion to the size of the animal. If you have an extremely coarse bone, it means deterioration in the value of the carcass. It is possible to go to the other extreme, and lose size. We must have enough bone to give size, but beyond that we want nothing excessive—no coarseness.

Then there is the quality of the hair. For my part I attach a great deal of importance to this. An abundant coat of thick, furry (some call it mossy) hair indicates a strong circulation, and consequently all parts of the body will be well nourished, and nine times out of ten such an animal is a good feeder.

Then there is a quality of the flesh; I like an animal that handles properly. I tried to describe the handling of a fat steer, and the handling of a breeding animal is very similar. The flesh should be elastic to the touch, indicating a large amount of natural flesh, as against superficial fat.

Regarding general appearance, I may say that I would rather take a bull that was a little on the rough side, if he had strong, masculine character, than ever so fine a bull if he lacked individuality, and were cowy looking. Of the two evils I would choose the lesser. I believe this the reason why many bulls that will not make show animals, in the herd are among the best breeders; they are bred right, and come of good ancestry, and consequently they are satisfactory breeders.

As to the cow, it is not necessary that she be pure-bred for breeding steers, but at the same time, I think it important that she should have as many crosses as possible of pure blood. We frequently hear of cross-breeding, and from actual experience I know that it is more difficult to go out and buy a first-class bunch of steers for feeding purposes than it was twenty years ago in this locality.

Mr. Dryden: It will be easy in five years from now.

Prof. Day: I think the reason is that the depression in the beef business was so prolonged that people got discouraged, and went more or less into dairying, and brought in dairy bulls. Thus their herds obtained an admixture of dairy blood. Many have told me that they would give a great deal if they could only get back their herds to the position they were 20 years ago. At the end of a few years they found that they had no more milk, and no beef. I would say, keep dairy blood to dairy blood, and beef blood to beef blood, and do not mix them up.

Mr. Dryden: That is sound doctrine.

Prof. Day: If you once start to mix them, you will end with something that is worth very little.

Duncan Anderson, Rugby: A farmer who keeps a two-year-old Jersey steer upon his farm does not know his business. The farmers of Ontario

have made a great mistake during the last ten or fifteen years in mixing the dairy and beef breeds. They are entirely different in their conformation. In the beef animal you must have a good top, but the top of a dairy animal is like the withers of a horse.

If there is one point in the conformation of a beef animal that is more important than another, it is to see that he is well filled up behind the shoulder.

I have reached the conclusion that if the farmers of Ontario are to make a profit out of beef cattle, they will have to mature them earlier than they are doing. I do not think it will require much more meal to fit an animal at two years old, only we must feed steadily from start to finish. I want to say this—milk from the separator for the first five weeks in the calf's life is not sufficient to support it. I do not think there is anything you can put into the milk that will give the same returns as the natural butter-fat for the first four or five weeks. After that time, we feed our calves skim milk and flaxseed tea, to take the place of the butter-fat. We turn the calves on the grass in the spring, not when it is hot in the day time and the flies bother them, but at night. We have our cows calve in the late fall, and feed them liberally in the winter time, and get twenty-five per cent. more milk. By this system we gain at least six months in the life of the calf, if it is liberally fed; that is, he kills as heavy in two and a half years as a calf coming in April and May would in three years.

Mr. Dryden: That is quite correct.

Mr. D. Anderson: I made a test with one calf, but should say that he was never on pasture. He was fed whole milk for five weeks, then skim milk for seven months, then cut roots, clover hay, and chopped oats. At thirteen months he weighed 1,055 pounds, and did not cost quite $30. In raising early beef, we must never let the calf flesh go off the calf; if we do, it will cost far more to again put it on the animal.

There are two bad systems of feeding, under and over feeding. We must feed liberally from start to finish, but not over feed. I value turnips very highly for feeding beef cattle, especially young stock. I think we have been feeding a little too much skim milk to our calves.

Q.: How often do you feed?

A.: Three times a day for the first two weeks.

Q.: How do you like sugar beets?

A.: Better than mangels or turnips.

Q.: Have you ever fed flaxseed, wheat and peas mixed?

A.: Not to calves. For feeding cows we obtained the best results from feeding one-third wheat, one-third peas, and one-third oats.

Q.: Why do you put flour with flaxseed?

A.: Flaxseed alone would be too laxative.

Q.: Do you consider that a few turnips mixed with the chop is injurious to butter?

A.: I am not a dairyman, but I would not advise feeding turnips in such a case. For fifteen years we have not allowed our cattle to eat a turnip-top. We plow them under, and there is no better manure.

THE PROPER BEEF CARCASS FOR THE BEST MARKETS.

By Prof. G. E. Day, O. A. C., Guelph.

There is a little difference this year compared with last as to the standard by which the carcasses were judged. The judging of previous

years was perfectly correct, according to the standard adopted. Last year they were judged according to the demands of the local trade. Those of you who were here last year will remember that a number of butchers said that if their steers were any fatter than the ones that obtained first price they would have to sell them at a discount. Others claimed that they were not fat enough for the best markets, and it was a little difficult to reconcile the two opinions. This year it was considered well to have the carcasses judged according to the export standard. In all these meat products quality is, of course, the very first requisite. In order to get that quality in a beef carcass we must have, in the first place, a proper conformation in the animal. An attempt was made in discussing the live bullock to indicate the parts that were of the greatest value when the animal was slaughtered, and the importance of having those parts well developed. The same thing applies to the carcass. When the butcher selects a carcass, he looks to see that those parts are well developed.

In addition to the conformation, the animal must be fat. The lean meat from a thin animal lacks quality, being dry and lacking in flavor. We may say, we do not want fat, but it is not what we want, it is what will sell best, that must be the standard.

Prof. C. F. Curtiss, Ames, Iowa: The discussion in relation to these carcasses is one that vitally concerns the beef producer. As Prof. Day has indicated, there are different standards in relation to the kind of carcass; our tastes differ, and our demands differ, and different markets have different standards. After all, the standard that fixes market value is the one that should govern the producer. We cannot afford to quarrel with the taste of the purchaser; our aim is to furnish what he wants, and that for which we can obtain the greatest price. This standard has changed greatly. A few years ago the foreign market demanded large, heavy, thick, fat bullocks, weighing eighteen hundred to two thousand; but that demand has changed, and it is now usually a losing business for the exporter to send that kind of bullock. There is now no market that demands that kind of bullock. The bullock that commands the highest price on our side is a good, compact, well-finished bullock, weighing not more than fifteen hundred pounds on foot, and they do not need to be that heavy. If you have the quality, form and excellence, that bullock will sell at top price at 1,200 lbs., and some of them even at 1,000. When we marketed, ten years ago, our first test lot of cattle from the Iowa College, we had cattle ranging from 1,500 to 1,900 lbs. Some of the best cattle we submitted were rated fifty cents below top price, simply because they did not have the weight. The judges who passed upon them said that there were no better animals in the lot than these smaller cattle, but that they lacked the weight necessary to put them in the highest priced class. That is all changed, and it is greatly to the advantage of the producer, as other things being equal, the younger the animal goes to market, the less is the cost of food, and the greater the profit to the producer.

The foreign market demands moderate weights, well finished, of good quality, and sufficient fat in connection with the lean meat to secure the highest degree of excellence without waste.

As Prof. Day has said, you cannot furnish lean meat of the required quality without a certain proportion of fat. You must have enough to insure a fine, delicate flavor, and tenderness. But the wasteful carcass, on the other hand, is a thing of the past; it is wasteful to the producer, because it takes more time and feed, and to the consumer, because of the excessive

amount of fat. The foreign market has charged more than our own. To-day the export cattle are not the heaviest or ripest cattle that come to our market. Our own market pays a higher price for the heaviest and ripest than the foreign market will pay.

There is sometimes an inherent tendency to fat in an animal. This is probably the case with the fat carcass that is here exhibited. In such an animal you often have a condition described as a fatty degeneration; that is to say, after a certain stage, a disposition to fat takes place at the expense of the lean tissue, and all fat put on after that stage is reached is at the expense of the lean meat in the carcass. These cases, however, only occur in show animals.

The great trouble with the meat that comes to the market to-day is not that it has too much fat, but not enough. The reason we do not have better meat when it comes to the table is that the animal has not been sufficiently fat. The great secret in producing a carcass of beef is to produce an animal in such a way that the fat grows with the animal, instead of producing the fat in the last three or four months, and putting it on the outside. The fat should not be deposited in patches on the outside of the carcass; it is absolutely wasted, and it is useful for nothing but tallow. You should have it occurring throughout the lean tissue. There you can sell it at a high price, and the consumer sees that he is getting an absolutely good article. That cannot be done by keeping an animal in a half-starved condition for two years, and then finishing it up in three or four months. The only way you can be sure of prime quality is to have the animal in fairly good condition under liberal feed from birth to maturity, and thus grow the fat as the animal is developing. Then the finishing process is comparatively short, and you have what we call marbled beef. The animal that will go on the block in the best condition is not one that has been forced beyond the point where it will give the best returns, or one that has been finished on a short forced period of feeding, but one that has grown its fat and its lean meat at the same time.

As to the degree of finish. The question has often been asked on our side: "Why is it that the animals that win on foot are generally unfit to win on the block?" and the contention has been that judgment in one case or the other was wrong, many claiming that the animals winning on foot ought to win on the block. Such a state of things is somewhat inconsistent apparently, and yet it is not. There is one particular point which the animal reaches when it is in the best condition for the block. You may carry an animal somewhat beyond that point for the show on foot, without spoiling its appearance, but you do so at the expense of the carcass. Then, again, you feed the animal to develop the highest form and the highest excellence on foot, and in so doing produce a greater amount of fat in the carcass than is desirable, and carry the animal beyond the stage where the carcass will give you the best returns. If you take a steer that has been fed eighteen months or two years for the show ring, the chances are that his carcass will be too fat from the consumer's standpoint.

Hon. Mr. Dryden: I think that the judgment in beef cattle ought to be the same as in the bacon hog. A good judge will select the hog alive which will win when it is killed. The man who judges beef ought to be able to do the same thing.

Prof. Curtiss: Mr. Dryden takes the position that a good many of our people do. It looks logical and reasonable, but I think there are other considerations which we must take into account. These animals are not judged

for the purpose of selecting an animal that will give the best carcass; if you did that, you would discard a large part of the animals that have been winning on foot at this show and at every other show. You could go into the stock yards and select a steer that would win on the block. This show is a demonstration from the breeder's standpoint as well as the feeder's standpoint. One reason why the butcher's judgment of fat is generally unsatisfactory to the breeder is that the butcher looks simply at the points he can make money out of; he wants a steer that is all loin and rib. The breeder knows that you cannot sacrifice heart girth and a low, level form, and a good lower line, etc., without discarding what is essential to you as a breeder; so we cannot afford to overlook these things. We want to carry an animal a little further than the condition that would enable him to win on the block, so that he may display to best advantage the qualities that enable these animals to go to the show at the greatest weight and the lowest age, namely, the best form, best developed back and rib, heart girth, and highest general excellence. Consequently, we push the animals beyond the point of greatest utility so far as the block is concerned. It is the same with breeding animals; if you put them in the show ring in the best condition, so far as utility was concerned, you would not show up their possibilities to the best advantage. That is not altogether a theoretical proposition, because, although man will tell you he does not want a fat animal, in nine cases out of ten you cannot sell him anything else. We want to see the possibilities of these animals. We know we can stop short of the excessive condition that makes an over-fat animal, but if we have an animal that never gives a high degree of excellence, we have no assurance that we can get him there. It is not necessary after all to harmonize these two standards of judgment. If there were no other considerations than the consumer's demands, then it would be necessary, but there are other points to which the breeder must give attention.

Hon. Mr. Dryden: I entirely agree with all Prof. Curtiss has said, but I do not think he quite understands the point I am trying to make. What we men of business are trying to do is to produce steers of the highest quality for the consumer. We do not see our animals in the carcass, and what we want to find out is when we have the animals at just the right point to sell. They know that as far as bacon is concerned, but they do not know it as regards beef; and that is why such mistakes as we have here in the over-fat carcass are made. We want the farmers to have the same ideal in respect to beef as they have in respect to bacon. Last year it gave me the shivers to think of the underdone carcass that was set up as the ideal. I knew it was not the kind of beef I wanted. They talk about the local demand, and say that it is different. Why is it different? The reason is that we do not know any better. I have been through just the same experience in reference to cheese. I said to our dairymen years ago: "How is it that we can never get good cheese in this country? Why should all our good cheese go to the old land? They are no better than we are, and we ought to have a chance at it. You are not cultivating the home trade." The local storekeeper says we cannot afford this fine cheese. I say I would rather take one pound of good cheese than four pounds of inferior for the same money. Why should people in Canada who are willing to pay the best price have to go to Chicago to obtain the best cuts? We would consume a good deal more if we could get the right article. Somehow we get mixed up in the show yard type and the breeding type and in the ideal animal to produce, so far as the consuming public is concerned. I want to improve that state of affairs.

Prof. Day: The idea in putting on a class of export steers was to bring out that point?

Hon. Mr. Dryden: Exactly; but I am not sure whether we know yet or not. How are we to tell when a steer is ready for market? How are you to tell that an animal will come first alive and dead ?

Prof. Curtiss: We cannot do it; I do not believe there is any man living who could have judged these carcasses when on foot, and told which would come first on the block. If you know how an animal has been fed, and what conditions have surrounded it from the time it was a calf till it comes before you in the show ring, you can then tell with a fair degree of accuracy whether you will have a good carcass or not, but if the judge has never before seen the animal, and is ignorant of the method of feeding, he cannot be sure. We can determine it where we know how an animal has been fed and finished.

Hon. Mr. Dryden: Prof. Curtiss has the knowledge I want you to have. He says he cannot come here, where the knows nothing of the animals and their feeding, and tell which will make the best carcass, but he can tell at the Iowa College, where he knows all the circumstances. How are we to get at that knowledge?

Q.: In the case of getting an animal fat in the last stage, can it not be controlled by the feed?

Prof. Curtiss: Yes, it is an important factor; but the feed in the first stages will have much more to do with it than the feed in the last stages. If your calf and yearling is carried on satisfactorily on a ration that is calculated to give bone and flesh, and the required amount of fat, that is as much as is necessary to keep the animal in a good, thrifty condition, and enable it to begin to deposit fat in the lean tissues from the start. You will then have the condition that is necessary on finishing it. Therefore, the ration has a good deal to do with the carcass, and with roughness, patchiness, and unevenness. If you feed a ration that is well balanced, and that is not too much concentrated, you will have a smoother animal than one that is simply pushed without reference to uniformity.

Q.: We sometimes have difficulty in getting them to market when they are ready; is it possible to hold them after they reach the best stage?

A.: No; I do not think so. You can, so far as appearance is concerned, but you cannot prevent deterioration in the value of the carcass.

Q.: Can you detect the difference between heifer and steer meat?

Hon. Mr. Dryden: Mr. White, who is a well-known butcher in Chicago, told me that if five spayed heifers and five open heifers and five steers of nearly the same scale were mixed up and submitted to him, he would undertake to pick them out and classify them.

Prof. Curtiss: Generally people on this side have been inclined to underestimate the value of a good heifer carcass; I mean a heifer that has been properly finished. I believe that such an animal will give as fine a piece of meat as was ever put on the block; and they reach prime condition for the block sooner.

One reason why much of the meat is inferior is because we get it too soon after it is killed. No meat is fit to go on the table until at least two weeks after it is killed. Whenever you get a really good article of that kind, you get something that is properly ripened. No carcass ever gets to a prime condition until it has passed through a ripening stage. Of course, in some cases cold storage is necessary. If you take a piece of fresh beef and eat it, and then eat a piece of the same beef after it has been held in the refrigerator for a fortnight, you will be astonished at the improvement in flavor and tenderness.

HOW TO FOUND AND MAINTAIN A DAIRY HERD.

By Prof. H. H. Dean, Agricultural College, Guelph.

It always takes a greater amount of intelligence and of skill to produce the fat we want in milk than it does to produce the fat required in beef, and the fat in milk is always of more value than that in beef. Why? Because it has been demonstrated that the fine fat found in milk and cream and butter have a special influence in developing the finer parts of the human brain, and consequently, the fat produced in milk has a beneficial action on the brain power of the human race. I am free to say that it takes a larger amount of skill, more thought, and greater care, to build up and maintain a dairy herd than it does a herd of beef animals. Some of our friends engaged in the production of beef may not agree with me, but if you will consider what we have to deal with in the dairy cow, I think you will be compelled to admit that it is a much more difficult problem to keep a dairy herd than to keep a herd of beef animals. Not only have you to breed and maintain the form of the dairy cow, but you have to deal with that least understood thing called life, which is so closely associated with the production of milk.

I propose first to give you briefly the plan we have adopted in building up and maintaining a dairy herd at the College. Some twelve years ago, when I took charge of the Dairy Department we had about a dozen ordinary grade cows. At present we have about thirty cows milking and twenty younger animals coming on. We have steadily increased the production of our herd, and last year the average for the herd was over 8,000 lbs. of milk per cow and over 300 lbs. of butter per cow. For 1902 the record is not so large, owing to the fact that we have five heifers with first calves which have brought down the average. However, I believe we are steadily improving our herd. We selected first the best grade cows we could get, using pure bred sires of the dairy breeds always, and raising practically all the heifer calves; then at the end of the second milking period, weeding out all that had not come up to our standard.

Here is the first principle I would lay down as necessary in founding and maintaining a dairy herd: Have a standard, and if a cow does not come up to that standard, the wise dairyman will get rid of her, no matter what she cost. Our standard is 6,000 lbs. of milk and 250 lbs. of butter. I expect we shall bring our herd up to 10,000 lbs. of milk and 400 lbs. of butter per cow. That can only be done by a process of breeding and selection. When we buy a cow, we weigh her milk every night and morning, take a sample, and put it into the Babcock test and test it. Then at the end of the month we know the number of pounds of milk she is yielding and the percentage of fat. At the end of the year we know what each cow has done, and if she does not come up to the standard we get rid of her. In the case of heifers, with their first calves, we give them a second trial. That briefly is the plan we have adopted—raising all our heifer calves, having them drop their first calves at two and a half or three years old, milking for two lactation periods, and weeding them out at the end of the second lactation period.

To improve the quality of the herd and the quantity of the milk yield, a man must not only breed his cows right, and weed them out according to standard, but it also involves the question of feeding. People say: "No wonder your cows milk well; you feed them so well." Cows cannot be expected to milk well unless you feed them well. I have never found a cow that would milk well on a small quantity of feed. I have no time to discuss

the question of feeding in detail; the main thing is to give the cow all the bulky food she will eat; but it should be of a digestible and palatable nature. In addition to this, she should receive eight pounds of meal to every 30 lbs. of milk produced, in order that she may produce milk economically.

THE DESIRABLE AND UNDESIRABLE POINTS IN A DAIRY COW.

By Prof. H. H. Dean, O. A. C., Guelph.

When I first started to talk dairying, and discussed the desirable and undesirable points of a dairy cow, I had a feeling that I could go into any man's herd and pick out the good cows and the unprofitable cows; but the more I study the question the less I feel like being dogmatic about it. To illustrate this, I have brought into the lecture room the champion cow of the dairy contest at this show. We have 37 cows here under test. I do not think that any man who considers himself a judge of dairy cattle would have selected this cow as likely to win in the contest. Why? You put your hands on her, and you will find that she has a thick, coarse hide, and when you look at her udder you must admit that there are any number of cows out there which judged by their udders could beat this cow. If you examine the milk veins you find that they are comparatively short and straight; it is not a large vein, and there are any number of cows out there which have a much better developed vein. The strong point in her udder, so far as I can see, is the large number of what I call udder veins. My experience leads me to believe that there is more in this than in the milk veins. When that strong development is seen, it indicates that there is a large amount of blood coming into the cow's udder, and the veins are thus pushed to the outside.

When we examine her quarter, we see that she has not the cat ham, but a ham like a Shorthorn.

Now, as to the giving of milk: I believe it is not so much a question of form or of development of the udder; it is a question, first, of the breeding of the cow, and then of the training of the cow. I believe you may start with almost any cow you like, and breed along dairy lines, and train right, and you can make dairy cows out of almost any breed. It is not so much a question of form as a question of habit, and a cow, to be a good milker, she must come of a good milking family, and form the habit of giving milk.

There are some things we should look for in a cow. We like to see plenty of heart and lung room, indicating vitality. I believe that is one of the reasons why this cow did so well. The stable in which the test was made is very badly ventilated, and at too high a temperature, and a cow to stand it must have a good constitution. You know a healthy, vigorous cow, that has good vitality and constitution, by her appearance. It is hard to describe, and yet you know it when you see it. Vital energy is indicated by the large bright eye and the broad forehead, because in the brain the nervous energy is developed, which applied to the blood, manufactures it into milk. The next point is the development of the udder, although it is not an infallible sign, for here we have a cow with a comparatively small udder and the teats close together.

Q.: It is wide where it is connected with the body?

A.: It is not what I would call a large udder. In this connection, I would say that while the udder is usually an indication of milk capacity, a

person may readily be deceived by it. I always make the reservation that there is no infallible sign of a good cow.

(At this point in the proceedings a cow with a very large udder was brought into the lecture room for purposes of comparison.)

Prof. Dean: If I knew nothing about the records of these two cows, I should say that the one with the large udder would produce the greatest quantity of milk.

Hon. Mr. Dryden: Do you think it probable that the first cow will hold out as a milk producer?

Prof. Dean: That is a point for consideration; we have not the record for last year. She has been giving from 60 to 65 pounds of milk per day at home.

Q.: Do not long mammary veins indicate persistent milking rather than a large yield?

A.: I have no data on which to base an opinion. A dairyman should breed for milk and butter or milk or butter. Then comes the question, is there any relation between type and milk and butter production. Some dairymen have made the mistake of breeding to a certain type, regardless of milking qualities. The question the dairyman should keep before him is that of milk and butter production, and not so much that of type. So far I have been unable to prove that there is any close relationship between type and milk and butter production. Many of you will not agree with me on this; but I believe it is a question of the breeding and training of the cow; type follows, and it is necessary in beef production, but it is not essential in dairy production.

Q.: Did you ever know a persistent milker that was not of the dairy type?

A.: The cow I brought from our herd at the College to lecture from last year was, I consider, distinctly of the beef type, and we have numbers of other in our herd.

Q.: Don't you think it an exception?

A.: I should not like to say it is the rule; there are many cows of the beef type that are persistent milkers. I have only this to add: I am firmly convinced that the only way dairymen can maintain and build up a dairy herd is to weigh the milk and test it, and weed out his cows to a standard, and there is no other way. A man who simply follows a certain type—wedge shape or anything else—to a fancy point, will be mistaken in the results from his herd.

Mr. Andrew Elliott, Galt: It may seem like presumption, but I feel that I must take exception to a number of things that have been said. If we are to have success in building up a dairy herd, I feel that we must pay a good deal of attention to type. If we depart from it, where are we going to end? The question was asked: "Do you find, as a rule, that an animal of the beef type will be a persistent milker?" I believe she may, but three times out of four she will be a persistently poor milker.

Hon. Mr. Dryden: Is there any real difference of opinion between you and Prof. Dean? I did not understand him to say that you ought not to have a dairy type. He said that if you depended upon the formation of a cow, and paid no attention to the testing of the milk, you would likely end in failure.

Prof. Dean: I think it is a mistake to follow type, and neglect to weigh and test the milk.

Mr. Elliott: In starting a dairy herd, the very foundation is selection. We must select cows that are good milkers and absolutely healthy. Too many dairymen have no system; they will use a Holstein bull one season, and

an Ayrshire another. First, determine what kind of a herd you are going to have, and never change unless you have perfectly good reasons. Do not make the mistake of using immature males, and see that they are distinctly masculine in character, otherwise he will never be an impressive sire, no matter what his pedigree may be. The male is half the herd. It is much more than half if we know that his immediate ancestors were satisfactory dairy animals and good doers. Having obtained such a male, use him as long as possible. I would rather breed in-and-in with such an animal than take an immature, untried animal. The cow should have plenty of room to hold her food. I want the cow that will take the largest amount of coarse fodder, because that is the cheapest. Men sometimes make the statement that they do not like to over-feed their young things. What is the result? They are undeveloped. I develop my heifers to the utmost extent without making them fat. In my opinion, under-feeding will ruin a heifer. The majority of our dairymen under-feed their cows and heifers. Feed a cow in calf to the utmost she will take, so that she may nourish her calf.

Q.: Would you always keep food before a cow?

A.: Decidedly not. I feed twice a day. I do not build up sufficient feed in the manger at one time to last the cow twelve hours. I put in only as much as she will eat up clean.

Q.: How long should a cow go dry?

A.: For as nearly two months as possible. You should milk for six teen or eighteen months with the first calf the cow has, so that a persistent habit of milking may be established.

Q.: Do you think a cow will give as much milk fed twice a day as three times?

A.: Yes.

Q.: How young would you breed a heifer?

A.: So that she will come in with her first calf in two years; the danger in breeding too young is to reduce the size.

Q.: What do you mean by a good pedigree?

A.: A record of the breeding of an animal for a certain number of generations; but it ought also to be a record of the doing of the ancestors of that animal. I would never buy a bull from a cow with a defective udder, or from one that was diseased or had any other defect.

Mr. Dryden: Is the first cow that was presented here to-night the kind you would save a heifer calf from?

A.: If she was a good doer at the pail, I would keep her calf.

Q.: Do you keep a heifer's calves?

A.: No, because she is immature.

THE DEVELOPMENT OF THE DAIRY COW IN SCOTLA

By Arch. MacNeilage, Glasgow, Scotland.

The cow that Prof. Dean has been discussing is not the type or the breed (Holstein) that we have many of in Scotland, but we have some. Such cows are used to a small extent in the stables near Edinburgh, where the milk trade is carried on. The opinion of our average dairymen about the matter of this cow's udder would be that it is a good udder. They would be disappointed in her hide; she has a hide like a rhinoceros. I do not think it fair to make a comparison between an eleven-year Holstein cow, such as

the second one introduced, that has been milked for all she is worth, and a cow that has been milked for only one season. If she had any other kind of udder than she has at her age, I would consider her a suspicious member of society, and would not figure very much on her. She is a cow that would command a good price in our markets for Edinburgh dairymen. She is a cow that would give a good flow of milk, judging from the appearance of her udder, and by the grip of the udder, and there is abundant spongy room in it. They would buy her because she is not an exaggerated wedge type, but is a cow with a good constitution; and therefore they would conclude that she is suitable for their purpose, which is to milk a cow for all she is worth, and then sell her to the butcher for as much as she will bring. That is the sort of cow they would buy. They would expect her to put on flesh fairly well, and at the same time give a good yield of milk.

I am expected to speak to-night as to the development of the dairy cow in Scotland. I shall direct my remarks, first, as to the origin of the Scotch dairy cow; second, the development of its milk producing powers; third, the abuse of the Scotch dairy cow; fourth, the present status of the Scotch dairy cow, and last, the efforts to produce a milking machine.

First, as to her origin: It is long since man first began to write about the Ayrshire cow. I find away back in 1780 a writer on questions of that kind says that the Ayrshire cow of his time was "the ideal type of dairy cow; she was long in the neck and in the head, angular in form, and thin in flesh." That was the idea prevalent in Scotland concerning what a dairy cow ought to look like at that time. It is said that three Ayrshires can live on what two Shorthorns live on; and this is because she is a thrifty and thriving individual. It is because of this that she is so valuable in the agriculture of Scotland.

How did such a breed come to be developed? At the end of the eighteenth century there was no such breed of cows as we see to-day. The description of the Ayrshire cow in 1780 is that she was a black cow with some white on face and belly, neck and tail. How did such a cow come to be developed into the type you know so well? Just as so many other breeds have been made. First, by a somewhat violent cross on the native breed, and then by careful selection from the product of the cross to perpetuate the good qualities gained.

In 1750, large properties in Ayrshire and North Berwickshire were owned by a certain nobleman. On his Berwick farm he kept a herd of Teeswater cattle—the same that formed the nucleus of the Shorthorn breed. He transferred some of these to his Ayrshire estate. These were bred with the native black cows to which I have referred. In 1811 the description of the Ayrshire shows a turned-in horn. How the present type of horn was obtained is a matter of conjecture; but I think it came from the Highland cross. A Highland bull was known to have been used by one of the prominent breeders in the early part of the 19th century, and it was probably a very old cross on the old native breed that gave the graceful branching horn of the present Ayrshire.

The udder of the cow is much more important than the horns, and the produce of the cow is still more important. The Scotch dairy cow at the time I speak of had a daily yield of about 31 lbs. of milk, so far as I can understand the old Scotch measures. There is a very great difference between the cow of 1810 and that of to-day in respect to the formation of the udder, and especially of the teats. The teats at that time were short and pointing outwards at considerable distance from each other. As now prescribed by the

regulations of the Ayrshire Association, the teats should be two and a half inches long, hanging perpendicular, equal in thickness, and not running to a point ; so that to-day the type of udder is entirely different.

The great man in the development of Scotch dairy stock was absolutely unknown at the time outside of his own locality—Mr. Parker Nether, of Broomlands. He was a typical old Scotchman of the picturesque type, and went around among his cattle in a stovepipe hat. He bred about the best cattle they ever had in Ayrshire, and did more than any man of his own time to bring about the modern Ayrshire breed.

But, you say, this is not the sort of cow we have imported from Scotland. Some of you, I have no doubt, have imported some remarkable animals that would do almost anything but produce milk, and you cannot understand how a breed such as this should produce so many animals that are disappointing. The Ayrshire cow that you imported in such cases was the victim of "fancy" in a peculiar degree. You know that fancy must be kept in check. Shows and competitions are excellent, but whenever they begin to make a commercial animal a fancy animal for the amusement of wealthy men, you run considerable risk of ruining that animal for commercial purposes. That was what happened to the Ayrshire. I will give an example of what I refer to. Scotch dairy farmers like a "tight vessel," or tight udder. Some of the "fancy" men observed these short teats ; about one and one-half inches were almost invariably found with the tight vessel that was popular. This sort of thing led to the fashionable show-yard Ayrshire, which was of little value in the market. It led to the neglect of that particular thing which Prof. Dean has rightly emphasized—the neglect of her milking record and the quality of her milk. But it was not the case with those men who were working for commercial purposes in the cheese sections, and in the districts that supplied milk to our big cities, or in the operations of men who had resolved to maintain the best characteristics of the breed. A determined effort was made in these quarters to preserve the good points of the breed. To prove that the effort was successful I will give you figures to illustrate the actual yield in actual Ayrshire herds. I have my own theories about the elaborate tests in shows of this kind. Our committee that sat on the milk standard refused to consider in their deliberations the milk returns obtained at agricultural shows and tests of that character. I will take the returns from three types of herds—a cheese herd in Galloway, a large high-class herd of dairy cattle, and a good commercial herd. A cheese herd is managed in a totally different way to that in which a herd from which milk is to be provided for centres of population is managed. The cheese herd is put through the winter in the cheapest possible way ; the cows are simply kept alive on straw and turnips, and they go dry from October to March. During the working season they get little more than grass. In such a herd you cannot look for the same milk yield as where milk production on the greatest scale is aimed at. The average in such a cheese herd was 26 pounds of milk per day for 203 days ; the highest average yield was 40 pounds, and the lowest yield was 17 pounds.

I now turn to the herd under up-to-date management, where the milk record was taken systematically every day, and where the butter fat was regularly tested. This is a commercial herd, and is the property of a limited liability company. The average yield in that herd was 30 pounds in the morning and 27 pounds in the evening for a cow five or six years old. Cow No. 30 in that herd during the first five months after her first period of lactation, when five years old, gave 6,970 pounds of milk, and for the whole

period of 38 weeks she yielded 10,098 pounds of milk, and the butter fat tested 5.5 per cent. This is the kind of dairy cow we are breeding in Scotland ; but you do not find her in the show yards. Another cow in the same herd gave 10,010 pounds in five months, and 12,380 pounds during the whole period of lactation.

The next illustration is from a spring-calving herd in Ayrshire. The milk from such a herd is used in bringing up the calves, and after that the milk that can be spared is made into cheese. The average yield per head in that herd of 36 cows was 4,827½ pounds.

Contrasted with that, I will give you the record of a fancy herd. This is the kind of herd that some Canadians got unfortunate importations from. The yield from the best cow in such a herd was 37.2 pounds per day, and the average yield was 4 320 pounds per head. You can compare these figures, and you will know where you ought to look to procure the kind of cattle you ought to import.

What is the present status of the breed ? I have said enough to indicate that we have two classes of Ayrshires, the show-yard Ayrshire and the working Ayrshire. What is the attitude of the ordinary Ayrshire breeder to the show-yard ? It is this : that the Ayrshire cow must not be judged always with regard simply to the formation of a tight vessel and the short teats that go along with it. That the vessel must be tight, all will admit, but a cow must have constitution, and a teat two and a half inches long, which will distend to three inches in the milking. She must be bred for constitution as well as milking power. It is towards that idea that our breeders are working, and a great factor in bringing this about was the fixing by the Government of a milk standard. That has led to the testing of a great many herds, and in this work it was discovered to the amazement of many that they had cattle within their herds that were unprofitable, and ought to be weeded out. The situation to-day in regard to Ayrshire cattle in Scotland is far better than it was some years ago, and more of our owners are able to give the milking records of their herds, and thus guide the purchaser in making a selection.

Now, as regards milking machines. I noticed in a report from your Department that Mr. Grisdale, when asked some questions about these machines, was very cautious in his replies, and I formed the conclusion that anyone who was so cautious must be at least three-quarters a Scotchman. His attitude led me to believe that he was not at all confident about them. There have been many efforts made in Scotland towards securing a milking machine. These efforts have been along two lines : first, those who have worked with the idea of getting a machine with continuous suction, and, second, those who worked with the idea of a machine with the teat-cup and the pulsating or natural movement. It was found that there was no way of preventing the suction machine from drawing blood when it had extracted all the milk, and, therefore, these machines are practically out of court as commercial articles. But in the public competition between these two machines the suction machine won easily as against the best of the pulsating machines, for the reason that in the final test, namely, in the keeping qualities of the milk, the suction machine came out easily first, as the milk it extracted kept best, for the very ingenuity of the means of imitating the calf in sucking had brought about an intricacy of the machine, and it was found impossible to keep it clean by any process. The material used was India rubber, and, therefore, hot water could not be used for cleansing, and nothing but scalding water would answer. Therefore, the machine which was a masterpiece

of ingenuity failed to obtain the prize. But it was recognized by those interested in it that it was not an absolute failure, and that it contained in it a good idea. These men set to work, and while preserving the pulsating idea, sought to overcome the difficulty in cleaning. The result has been a new machine, which I saw at work the Saturday before I left home in a dairy of forty or fifty cows of all ages, with all kinds of teats. The machine milked every cow in the byre except one, and she was a tough customer to negotiate even by hand. The cleansing of the apparatus was done in the simplest manner possible. But, although they have overcome this difficulty, there is still one weak point, which is that the machine does not strip the cows. I am not going to say that the machine is a failure ; but, at the same time, it is not in a position yet to be heralded forth as a commercial success, nor has it been submitted to the public test that either of the other machines were submitted to. My verdict so far is, that the machine is being manufactured and exported in large numbers to Australia and New Zealand ; but so long as it does not strip the cows it cannot be regarded as an unqualified commercial success.

PROPER CONFORMATION OF MUTTON SHEEP.

By J. H.Grisdale, Central Experimental Farm, Ottawa.

What I have to say will apply to no one breed, but to all breeds, because I am to speak of the conformation of the sheep for mutton purposes. Of the two sheep we have before us, one is the champion grade of the show, and the other a fair specimen. In the champion animal you will observe the sharp contour of the face. This indicates sufficient life and nervous energy to lay on flesh. You should, therefore, look for clean cut features. The bright, clear eye indicates a good doer. The neck should be compact, short and thick, and is indicative of the conformation of the rest of the body. It is also the cheapest part of the carcass, and we do not want too much of it. The neck should indicate strength and character, and this applies also to the junction of the neck with the body. The body should be strong through the shoulders and along the top. There should be a good length of rib, well covered with a thick layer of muscle. The closeness of the rib also indicates the value of the sheep as a meat producer. When the ribs are close together there will be a better layer of meat on the outside. The whole back should be well covered, with great width over the loins, as from the quarter to the first rib are the parts that sell for the highest price in the markets. The quarter should be well developed on top and back over the pin points, and it should also be well filled up. We must have good depth of body—not that it gives expensive meat, but it indicates the strength and development of the whole animal. If we have a good, long rib we have a good development of the upper or valuable part.

In cutting up an animal, the shoulder and the lower part of the rib go together, and sell at a low price ; the ribs sell together, and the loin sells as one part, and then the quarters.

Q.: How do the long and short woolled sheep compare in laying on fat ?

A.: This is a difficult question to answer. In lambs the long-woolled will contain an equal quantity of mottled flesh ; and even in the case of old sheep, where they are not too heavily fed.

Mr. A. W. Smith : Mr. Grisdale has described the type of mutton sheep, but in setting to work to produce such an animal, I would not recommend

you to breed from a sire and dam that are both exactly of the type Mr. Grisdale has indicated. This may seem strange, but it is borne out in experience. You require a little difference in the sire and the dam. To begin with, in a sire I want not too large an animal, but one that is compact ; but you should have all the qualities Mr. Grisdale has described. I never breed from a long-necked ram on any account. A good ram should stand straight and square on his legs, and they should not be too close together to indicate narrowness. He should be alert and lively, with nothing sluggish about him.

In regard to the ewe, I would have a little different type. I want a little more spread or looseness—not so closely coupled—thus giving more room. You do not want a long neck, but I would not object to the little more length of neck than in the ram. The head should be bright and sprightly, as in the ram.

With regard to the wool, I have found in my experience that better results will be gained in any animal of whatever breed if it should have a dense fleece, that is, dense for the particular breed.

Mr. John Jackson : The buyer wants a sheep with practically no shoulder or front, but it is not possible to breed that kind of a sheep ; he would be a very hard feeder, so that we have to breed these parts in order to develop the rest. I agree that you do not want too big a ram in any particular.

Mr. John Campbell : I should like to consider this sheep before us as a machine. We want a machine for a special purpose. In producing live animals of any kind, we want them for a special purpose—for the purpose of converting the raw material of our farms into a finished and more valuable article. Just as in machines, we must make comparisons and find out the strong and weak points. We must, therefore, take into consideration conformation, so that we may judge as to their capacity to make use of the raw material we feed them. The form will determine their value in this regard. We must start first with the right form, and then must have it nicely laid over with flesh and natural fat.

It is utterly impossible to produce sheep from the consumer's standpoint alone. More depends upon the structure of the animal than on the feeding, to my mind. The form indicates very largely the kind of flesh you will find beneath ; but, I have to confess, the longer I live the more satisfied I am that there is a good deal of guess work about it, and there is no certainty. I have seen men of great experience come far short of their guess. They cannot tell with handling what proportion of lean meat the carcass will contain.

Regarding the excellence of Ontario stock compared with that of the other side, I may say that the grade wethers that went to Chicago and won prizes did not get a place at this show. That is something worth knowing.

THE MUTTON CARCASS.

Mr. J. H. Grisdale, Ottawa : Much of what was said about beef carcasses is applicable to mutton carcasses as regards conformation, and there is little I can add to it.

Q.: Is there any difference in the breeds of sheep for laying on fat in different portions of the animal ?

Prof. Curtiss : There is a difference in breeds of sheep, just as there is a difference in the breeds of hogs ; but not the same difference, because we have not developed the extreme types in sheep that we have in hogs. It is

well-known that some breeds of sheep carry a good deal more flesh than others, and have an inherited tendency to fat. Leicesters fatten more than any other breed. Contrast the Leicester and Merino fed under the same conditions, and you will see almost the same difference in condition as between the fat hog and the bacon hog.

Dr. Mills: How is it that we have so small a proportion of good mutton for sale here as compared with the Old Country?

Prof. Curtiss: There is a greater demand for first-class mutton in the Old Country. English people have an inherited taste for good mutton, and it is more largely used. The English have established what is known throughout the world as the English mutton chop, which is a good, rich, fully-developed article. There is a good deal of waste about it, but people who have acquired the taste for it are willing to pay the price, and the consumer pays for the waste. To secure it, the sheep must be fed until it reaches a good weight, and a good, rich development. Not enough of our people appreciate good stuff; they buy inferior stuff on the chance of having less waste.

I want to refer to the difference between the lamb and the yearling. Other things being equal, the lamb is a more economical mutton producer, and most of our mutton is going on the market under one year, for the reason that it is produced on about 50 per cent. less feed than a sheep a year older, and when the carcass is cut up there is a much larger proportion of lean meat in it.

Q.: What about the quality of the mutton supplied to the local trade?

A.: I think that the lamb trade is perfectly satisfactory, but fully 90 per cent. of the mutton sheep put upon the retail market are simply sucked-out old ewes.

Q.: How long should mutton be kept?

A.: It is necessary to ripen any kind of meat to have it in prime condition, and wherever you eat a good English mutton chop, you will find it has been ripened up. In England this can be done in the open air, but we have to use refrigerators and storage.

Q.: What should the temperature be?

A.: Not much below forty degrees in ordinary refrigerators; not always as low as that. The length of time it takes to ripen depends on the temperature, and also upon the carcass; not as much is required for mutton as for beef. Two weeks is enough for mutton; beef ought to have three weeks or thirty days.

Q.: What is the cause in winter time of meat getting an old flavor, especially on the outside?

A.: I can hardly answer that question without knowing all the circumstances. The matter of temperature has a great deal to do with the ripening of meat, just as it has with cheese. Meat should not be frozen to give the best results; it will never be in as good condition as if you had simply chilled it to a little above freezing point. I should say that primarily the trouble would be due to wrong temperature.

THE CORRECT TYPE OF BACON HOG.

By J. E. Brethour, Burford.

We have before us this evening three types of hog. The first is a good specimen of the bacon type. You will notice that the head is not heavy. It has

a medium length of nose, a fairly good forehead, and a good width between the eyes. The ears are not coarse and slouchy, which would indicate coarseness in the quality of flesh, but are of medium thickness, well set on and not too large. The neck is of medium length, and not too wide. The upper part of the neck is not too coarse or heavy, yet it is full enough to indicate strength. The shoulder is smooth and even, without wrinkles, to indicate coarseness. At the back of the shoulders the animal is full, which is an indication of heart vigor and constitution. The loin should be arched, and with as good width over the loin as over the top of the shoulder. The reason for that is that you have a lot of high-priced meat there, and you will have a strong back, a back indicating good vitality and good feeding qualities, and in a sow it is very essential from a breeder's standpoint. The loin should be of fairly good length, and slightly drooping, without any roughness or patchiness at the tail. The gammon should be filled with flesh all the way round the bone, without any looseness or flabbiness of skin. Coming to the flanks, if you have a cut-up flank, you usually have a poor loin. You do not want too much shank with the gammon, as it does not give a correctly formed ham.

The second type presented has not a proper finish. It is almost a "razor back." Many people have the idea that a proper bacon hog is what is called a razor-back. That is not correct. You must have breadth of back. This animal has also a bare loin and gammon. It also has a thin, weedy neck, which is a strong objection. This animal would not make a thrifty pig; it would cut out a lot of lean meat, but it would not be, I consider, a high class.

The third type we have here is not an extreme type of the thick fat, although it is too thick and fat for the ideal Wiltshire side. It has a coarse and prominent shoulder. The pig is well formed, but of undue thickness. The hams are very well formed, but show indications of carrying too much fat on the outside of the ham.

There are one or two points to which I should like to draw attention as indicating certain qualities. If you take a pig with a very short head, you will usually get a thick jowl and too much development along the crest. An unthrifty pig is usually bare along the back. The back is not exactly right simply because it is long; you should not go to extremes in length. If you have too much length the animal is sure to be too light along the back. The underline should be straight, and without droop. Many people think if a pig has lots of depth it is all right. I think it is rather an objection, as it gives a large amount of cheap meat, and I do not think it indicates vitality. The bone should be hard, flinty, and clean. The bone should be flat, rather than round, as roundness of bone indicates coarseness of flesh. The bone should have the appearance of being well knitted about the joints, and the feet should be well up, without any appearance of knuckling down.

Q.: Have those animals been fed alike?

A.: Largely; but one has not made good use of its food, and the good one has never been forced as much as the fat one.

Q.: How are they bred?

A.: They are all pure bred Yorkshires. I selected them because I thought it better to make comparisons all from the breed type.

Hon. Mr. Dryden: What he is driving at is that he thinks if he bought a pure-bred Yorkshire, he would have a tip-top hog.

Mr. Brethour: Not necessarily.

Hon. Mr. Dryden: In other words, pedigree does not make the hog?

Mr. Brethour: Not at all.

Hon. Mr. Dryden: Some of our people have that to learn yet.

Q.: How do you find out whether an animal has a hard bone ?

A.: A man must have experience to tell. The bone should be flattish rather than round, and there should be no undue bend to the hock, which indicates weak bone, and also breaking down of the feet at the pastern. This makes no difference to the packer, but it does to the feeder. On general principles it is well to have animals with a good bone, so that they can hunt their own living and look after their health better.

Q.: Do you think that a pig with a good type of bone is more likely to be a good type of pig ?

A.: Yes ; I think that is correct.

Mr. C. F. Hodges, Brantford Packing Company : The hog that Mr. Brethour has used to illustrate the strong points in a bacon hog is about as near the ideal as you will get. If you look at the Poland China, Duroc Jersey, and Chester White, you will find that the great bulk of them are over-fat. The packer does not want these over-fat hogs, neither does he want the razor-back type. What kind of hog is most likely to give the packer what he wants ? Let me give you the results of experience in other countries. The Irish packers a few years ago found themselves, owing to the competition of Denmark, in danger of losing their supremacy in the British market. These two countries for a number of years have been looking for a breed that would produce the ideal type. The Irish packers learned that the improvement in the quality of the Danish product was due to the introduction into Denmark of a large number of the best Yorkshire breeding stock, secured from the herds of England. So the packers of the south of Ireland combined and formed a society. They formed breeding stations, and supplied boars and sows free to the farmers, the only condition being that the hogs so placed should be kept in good breeding condition. What was the result ? To-day you will not find a thick, fat hog in that section of Ireland, although there was a time when from whole districts nothing but thick fats came. The packers did not do this for the benefit of the farmers, but for their own benefit.

In Canada something of the same kind has been done. When our house started operations we got an enormous quantity of very fat hogs. We, therefore, imported a large number of Yorkshire boars, and sold them to the farmers, as we could not afford to give them away. You would be astonished at the improvement there is in the hogs we are now receiving ; so much so that we get 50 per cent. more No. 1's than we did two years ago.

The Tamworth is not a bad hog. But he has one fault—a thin belly, which does not give good, streaky meat. He is also thin in the withers. The other breeds have not that fault, but go to the other extreme.

Hon. Mr. Dryden : I do not believe he cares what breed of hogs you take as long as you get the right type.

Mr. Hodges : That's right.

Q.: How can you get a better price for select hogs ?

A.: Unfortunately, there has been so much competition in the last two years that the drovers are not selecting the hogs as they should. When hogs become more plentiful, they will do so.

Q.: As it is now, hogs are bought as they run, good, bad and indifferent, and our education here is thrown away. How are we to get over that difficulty ?

A.: That will right itself eventually.

Q.: Does the drover get any more at the factory for selected hogs than for others ?

A.: Yes; we cull him when he comes to the factory.

Q.: But the man who produces the good type does not get paid in proportion ?

A.: We endeavor to induce the drover to cull, but they will not do it as a rule. He is at liberty to pay what he likes for them.

Mr. Brethour : If all produced culls, all would get a lower price than is being paid now ?

Mr. Hodson: If packers would not buy from the drovers who did not cull with the farmer, the difficulty would be overcome.

Mr. W. H. McNeill, Oakville : Some time ago I took five hogs to the open market at Toronto. The buyer said they were just the right type, but I could only get $6.50 for them, while the drovers were getting $7 for the same class of hogs. The explanation given me was that the difference represented the commission paid drovers, and that this commission must be allowed in all cases, even when the drovers did not buy the hogs at all.

Mr. Hodges : The reason they do not pay farmers for hogs on the wagon as much as drovers who bring them in on the train is because of the shrinkage next day, the reason being that the farmers feed them up to the neck before selling. I have known hogs bought from farmers to shrink from 12 to 18 pounds in 24 hours after purchase.

Mr. McNeill : My hogs were not fed before leaving home, and were driven twenty-five miles to market.

Hon. Mr. Dryden : Why do you not deduct from the weight allowed farmers on account of over-feeding ; that would be fairer and more satisfactory than cutting on the price ?

Mr. Henry Glendinning : In our section buyers pay 25 cents per hundred more for the right type of hogs ; but the drovers feed the hogs two or three times before they deliver them to the packer. We feed our hogs in the morning before delivery. Then an hour before the train is due to leave the animals are fed again by the drovers, and it is said that the drovers give a still further feed on arrival at Toronto. In our section we expect to get 35 cents less than Toronto prices.

Mr. McCabe, Mount Hope : I turn off from 50 to 150 hogs a year, and all my pigs go to one drover. He tells me not to feed in the morning before delivery, and gives me 10 cents more per hundred than he gives my neighbor. This gives him a chance to feed the hogs after he gets them ; so do not accuse the farmers of filling their hogs.

Mr. J. Gray, Newcastle : The drover tells me to stuff my hogs for all they are worth ?

Mr. White, Stratford Packing Co.: That is a dishonest drover.

Hon. Mr. Dryden : That may be ; but place the blame where it belongs ; do not blame the farmer for the faults of the drover.

Mr. White : But there is a difference of 25 cents in the price allowed drovers when pigs are bought by the weight shown on coming off the cars, as compared with the price allowed when the weight is taken after feeding ?

Q.: Do the packers ever send out buyers and pay them by commission ?

A.: Yes ; A good many buyers are paid by commission.

Mr. Glendinning : Three weeks ago I sold ten hogs at $5.65. The drover took them to Toronto, and told me he got $5.87½. He told me afterwards that he could not have held his own on that lot if he had not fed before shipping, and if he had not both fed and watered on arrival at Toronto.

Mr. Andrew Elliott : Let us produce an even larger percentage of No. 1 hogs than we do now, and then the man who persists in producing the

undesirable type will suffer for it, while those who produce the best will be benefited by the improvement of the general average. You can produce the best bacon hogs as cheaply, if not more cheaply, than you can the undesirable class. What is the object, then, in raising inferior animals? Let us all start in to produce the best, and we shall all benefit from the general improvement in quality.

Hon. Mr. Dryden: That is all right; but my point is that the drovers and packers do not help us as they might.

SELECTION AND BREEDING OF BACON HOGS.

By Prof. G. E. Day, Ontario Agricultural College, Guelph.

I think that Mr. Elliott struck the nail on the head with regard to the question of quality. As I said last year, we have no option in this matter; no matter who is in the wrong, the farmer, the buyer, or the packer, if we are to retain our bacon trade, we must produce the bacon hog.

Q.: Why?

Mr. Day: Because we cannot compete with the Americans in the fat hog business. Under present conditions the Americans are not competitors of ours; their bacon goes to a distinctly different market. Our competitors are the Danes and the Irish, and we shall have to look to our laurels or be content to take third place. We shall have to breed bacon hogs if prevailing prices are to be maintained. There is no question that a good type of bacon hog can be produced just as cheaply as a fat. For my part I would rather take a good type for feeding for profit, than one of these runty fellows. It takes some skill and some care to breed the bacon hog; it may cost more for the original stock, but, so far as the expense is concerned, I think that the man who breeds a good type is the gainer over the man who breeds a poor type.

Now, I think that in this matter we are inclined to rest somewhat upon our oars. We have been getting pretty good prices for the last year or two; I do not know that any class of stock on the farm has been doing better. But I think we are beginning to get careless, and there is no doubt that this competition among buyers has had something to do with it. If we do not make an effort to improve and raise the standard still further, we shall have to take a back seat in the British market. If that day comes, woe to the bacon trade and to the hog producer. We cannot wake up any too soon. Now, take this home and think it over. I feel pretty strongly on this subject. I have been talking it for some years against opposition, and I am glad to see so many coming my way now.

I do not think there is anything in the question of breeds; it is the type of hog; it is the individual that indicates economy of gain, not so much the breed.

With regard to the selection of hogs that will breed the bacon type of carcass, one of the first things I consider is the question of heredity—how is the animal bred? I am a strong believer in the law of heredity; that is to say, every animal influences his progeny. Although an animal may be a good individual, if he comes of a line that is noted for inferiority, he is as likely to produce stock like his ancestors as he is like himself, and more likely, because all his ancestors will have their influence. The reason for this is that if you go back only two generations, each individual has six an-

cestors. If these are bad, you have six bad influences pulling against one good influence in the formation of the individual's offspring.

After we have settled that his breeding is all right, then we have to look at the individual always. Of course, breeds differ; what might be suitable in one breed may not be so suitable in another, but I am talking about hogs of the bacon type. In a boar, one of the first things to look at in his legs. If he does not stand up straight, I do not want him; if he will not stand up on his toes, I have no use for him, for the reason that it is an indication of bad quality of bone, and you are likely to get that quality transmitted. If the bone is right, you are likely to get all parts of an animal right; if it is wrong, all parts are likely to be wrong. An animal with strong bone can stand close confinement and heavy feeding, and he will stand forcing. The flinty quality of the bone has been spoken of. There should also be a clean cut appearance to the limb without puffiness or beefy appearance. In a boar I like a considerable quantity of bone along with the quality; but if the sows were extremely coarse, then the breeder might use something a little finer in bone. That point should be taken into consideration.

The next point to be considered is constitution. If the animal has not that, he is not a satisfactory feeder, and he is not likely to stamp his individuality on his progeny. The indications of constitution are good depth, well filled round the heart, and back of the elbow or fore flank. I like a pig to stand on his front legs well apart, not sprawled wide out. The legs should be well set under the outside of the body, and there should be good distance between, and a reasonable fulness of chest. I do not like a pig that gives the impression when looked at in front that his two legs are growing out of one hole.

Then there is the general bright, healthy, thrifty appearance, and good, bright eye—the lively-looking animal that can move around. When you get that formation of pig, and a strong, clear bone, and an active pig, you have a pretty good animal. You must have length, but I agree with what Mr. Brethour said, I would sacrifice a little length to good constitution. I am not a stickler for a perfectly smooth shoulder; there are other things of more importance. I have had pigs with smooth shoulders that were narrow, cramped, and lacked constitution. I do not mean to say that a pig must have a rough shoulder to show constitution; if you can get a boar with a smooth shoulder and plenty of constitution, all the better. With regard to the general quality of the animal, I like a boar well covered with a coat of good hair. I do not like to see coarse bristles; it is an indication of coarseness throughout—coarse bone and coarse, thick skin. I like a smooth coat of hair, plenty of it, and of a quality that does not feel harsh when you touch it. A young boar should not have wrinkles on the side.

There is a point about the head—I like to see it show the character of the breed. For my part, I am partial to a good-sized ear, but I like it well on the top of the head. A coarse ear is an indication of coarseness of skin, just as coarse hair is. Where you have a thin ear, supposing it is large, it is an indication of better quality of skin throughout, and an animal more suitable for meat purposes. The bacon hog is bound to look somewhat shallow and light in comparison with the thick, fat animal. The bacon breeds do not get corpulent; but we like to see reasonable depth, and a rib that comes out well from the back, and then turns sharply and gives a level side.

As to the sow, the chubby, chunky sort, I do not like at all, neither do I like the very long pig, smooth along the side, uniform in thickness, and standing away up on long legs, and narrow-chested. I do not like that type of sow to breed from.

Duncan Anderson, Rugby : I wish to say a few words in reference to the breeding sow. I will not, if I know it, select a breeding sow from a first litter or from a fall litter, because in the winter the young pigs do not get sufficient exercise. I prefer to select my breeding sows from spring litters, and from a fairly mature dam, say, two or three years old. The sire should always be registered, but not necessarily the sow. It is a good plan to go to the buyer's pens and select your sows from there at six months old. I think that the hair and skin of a pig are the best indications of its feeding qualities. I would not buy a curly-haired sow, nor a sow with a dry skin. I do not want a coarse-haired sow, but one with the hair fairly long and fairly fine. I would not have a sow with a rat tail, but want one with a curl in it—it indicates a good doer. Neither would I buy a sow that is tucked up in the belly. If you have a roomy female you have a better breeding animal than one that is too compact and too close. I never want a sow that has the least sag in the back.

Prof. Day : In your line of breeding you cross with a Berkshire boar, and you would require a little different sow than if you were using pure-breds ?

Mr. Anderson : Yes ; I like a fairly roomy, open, and not too fine a sow, and would put such a one to a compact boar.

Q.: Is it the fault of the bone that inclines pigs to go crippled ?

A.: I think it comes from damp pens and wrong rations ; too concentrated food and lack of exercise.

Prof. Day : I think you can cripple any pig, but the stronger the bone the less liability there is of this.

Mr. Elliott : Do you not think it is a mistake to advocate cross breeding ? It may be well enough with your knowledge, but in going through the country I find there are lots of pigs that look as if they had a dash of all kinds of breeds.

Mr. Anderson : I do not wish to give the impression that I would use a cross bred sow for breeding ; I would always use a pure sow, but not necessarily a registered one. I would cross two pure-breds of different breeds, but I would not go much beyond the first cross.

DESIRABLE AND UNDESIRABLE SIDES OF BACON.

J. E. Brethour, Burford : What we must first look for in a No. 1 carcass is a good deal of length, but with the length there should be fulness of good meat, without weakness at any point, especially where the high-priced meat is located. If there is too much fulness at the lower part of the gammon, too much fat is likely to result ; it should taper nicely. The carcass should not be too deep, or you will have too much of the cheap lower meat ; but you must not have a thin flank, or you will have a thin loin. The fat must be evenly distributed down the back, being about 1¼ to 1½ inches in thickness. If it is uneven, the side will class as No. 2 with the Old Country buyer. If the fat is evenly distributed down the back, you will usually get an even distribution of fat and lean throughout the carcass. There should be no wrinkles in the side, as it indicates an uneven distribution of fat. It is very undesirable to have 2½ to 3 inches of fat on the crest.

We have here an example of a bruised side.

Q.: What indicates a bruised side ?

A.: Black spots appearing on it.

Q.: Is not soft meat produced by feeding wrong kinds of feed ?

A.: That certainly may be the case. Anything that results in an unhealthy condition may result in soft bacon. If an animal is allowed to get unthrifty, you will never get him into a thoroughly satisfactory condition again.

Q.: What is the best food in order to make desirable bacon ?

A.: Any food that will cause the animal to grow and keep in a thrifty condition will serve the purpose intended. Lack of variety in the ration should be avoided. It is also objectionable to feed too much corn in the early period of a hog's life; it is fat producing, and will cause the young pigs to form a habit of producing fat which cannot afterwards be overcome.

Q.: Is it profitable to raise hogs without milk ?

A.: I believe that with the dairy by-products you can produce pork cheaper and better than in any other way. They may be fairly well nourished without milk, but you have to keep them longer. If you feed strongly when young and give them no milk, the hogs will be forced.

Q.: Has not forcing a tendency to produce soft pork ?

A.: I do not think it is possible to make soft pork by giving them too much food, so long as they can digest it.

Q.: Will hogs finished on corn give soft pork ?

Q.: I think corn is injurious. The bacon breeds should never be fed on a corn ration alone ; they will not utilize it as well as they will a mixed ration. They have a habit of producing lean meat, and if they are fed corn, a certain proportion of it is not assimilated, and consequently is wasted.

Q.: Do you ever feed wheat ?

A.: It is a very strong food, and if fed alone is liable to give an unhealthy condition. It should be fed with dairy by-products, and not much of it at a time. A variety of grain is cheaper and better.

Q.: What effect will exercise have ?

A.: Exercise has a healthful influence ; that is all it is necessary for. If you are giving too much exercise, you are wasting your feed.

Q.: What about bran ?

A.: It is all right for young pigs, but not for finishing. It would be very good with a mixture.

Q.: What is the best feed ?

A.: Barley, in my opinion; but not too much of it.

Q.: Have you had any experience with the artichoke ?

Q.: It is a much cheaper vegetable food than most others, as you get such a large quantity per acre.

Q.: Would beans be a desirable food ?

A.: I think they are very injurious, and will spoil a good carcass every time.

Q.: Do you advocate cooking the food ?

A.: I think that warming it is all right, but I do not advocate boiling it. Your pigs relish it, however.

Q.: What would you give to young pigs as a substitute for milk ?

A.: They should be allowed to run with their mother longer—two months, anyway.

Q.: Would you feed hogs fermented food ?

A.: I think you would be wasting the food, and that it would be unhealthy food.

Q.: Is it good to feed much sloppy food ?

A.: Yes ; in warm weather, but not in cold. You have to change your system according to the season.

Q.: I mean in weaning fall litters ?

A.: I would not give much sloppy food to young pigs.

Q.: Would you feed warm food in the case of a cold pen ?

A.: Certainly ; but you must have a dry pen—no damp of any kind.

Q.: Do you feed chopped grain soaked or dry ?

A.: I am in favor of dry feeding in cold weather, but there is a great deal of waste in feeding dry food in the warm season. The pigs want a good deal of drink during the warm weather.

BACON HOGS FOR THE EXPORT TRADE.

By C. W. Bowman, Ingersoll.

There is no doubt that the bacon hog has improved in this Province in the last few years. Perhaps we as packers do not always give the farmers credit for what they are doing, but I am quite sure that a great many are trying their utmost to comply with the requirements of the trade. I do not think there was ever a time when the packers were getting so large a percentage of No. 1 hogs as they are to-day. While it is true that we are getting a rather larger percentage of light hogs, the percentage of fats is remarkably low. I do no know that we would be justified in believing that the present average is going to be maintained, but I am certain we have gained ground.

There is one unfortunate feature in gatherings such as this, namely, that we do not get the class of farmers here who are not meeting the requirements of the trade. Those who do attend, therefore, should do a little missionary work among their neighbors ; it will pay them to do it. It is a little unfortunate that the conditions of the trade are such that the just have to suffer with the unjust. I know a great many think that the packer is to blame for not buying more strictly on selection, and perhaps that is true. Still, it is a very difficult question to handle. We at Ingersoll try to select our hogs as nearly at their actual value as we can. One difficulty in the situation is that there are too many drovers in the country. I do not know how they treat the farmers, but they try to run our business for us, and sometimes succeed pretty well.

The requirements of the export trade as regards sides that will rank as No. 1 is that they are made from hogs weighing 180 or 200 pounds ; that have the fat evenly distributed along the back, and not of too great thickness ; that are firm in the fat, and free from bruises. These are the weights that, taken month with month, and year with year, will average the best prices. It is true there is a certain demand for lighter or leaner, and at times for fatter stock than No. 1's, but this may be regarded as an abnormal demand, and no matter how good the general average may be, there will always be a sufficient offering of light weights and fats to meet it.

We do not care of what breed the hogs are, so long as they are the right type. We sometimes say that we like Yorkshires and Tamworths and their crosses, and so we do, because from them we get a far larger percentage of No. 1 sides than from any of the other breeds.

Looking over our returns for the last two months, I find that 9 per cent. of all the bacon we have shipped has been sold as bruised, at an average of two shillings per hundred less on that account. If you will figure this out on the total export for one year, you will grasp the seriousness of this

defect. I do not mean to say that the farmers are alone responsible; I include the drover and his help, and the packer's help, also. We have constantly to warn our men against rough handling. It is impossible to altogether overcome this, for even in driving hogs from one pen to another in the packing house bruises are liable to occur, but if everyone would make an effort to reduce this large percentage of bruised meat, a great deal might be accomplished. It is very important that the scales should be near the unloading yard, and where they are not they should be got there as soon as possible.

Hon. Mr. Dryden: I want to thank Mr. Bowman for the spirit of his remarks. He has treated us as though we were one with him, trying to do the best we can. There are a few rogues among the farmers, no doubt, but the majority are trying to do the right thing, and I am glad that one man from a packing house is willing to tell us so.

Q.: What percentage of No. 1's have you received during the past six months?

A.: I think that perhaps not more than 30 per cent., at the outside, would class as ideal No. 1. About 60 per cent. have been lean. These, even where they are of the right bacon type, cannot be classed as strictly No. 1.

Q.: How is it that Americans get a higher price for their corn fed pork than we get in Canada?

A.: In the United States they have a varied consuming population; they do not depend on the English market, but make the price for themselves.

Q.: Would not the price obtained in the British market warrant a more regular price here? Why is there so much variation here? Is that not often the cause of hogs being marketed when they ar not fit?

A.: Yes; we sometimes see a drop in prices in Canada without a corresponding drop in England. It comes about in this way: Hogs are withheld from market so that the farmer may put more weight on them. The packers come to the conclusion that there is going to a shortage, and compete with each other in the purchase. Later on a lot of unsuitable hogs begin to come in, and we know we shall have to drop the price or lose money.

Q.: What effect has the increase in the number of packing houses had on prices?

A.: A great many believe that the new packing houses have improved the price. Bacon has advanced in value the same as a great many other articles, but I do not think the new packing houses are responsible for the better prices. For the last eight or ten years there has been quite sufficient competition among packers to keep up prices to the highest notch.

Q.: How is it there is so much discrimination in buying?

A.: We buy as nearly according to the grade of the hog as conditions will permit?

Q: Why cannot you do the same as with beef?

A.: The conditions of the trade are different.

Hon. Mr. Dryden: Perhaps the reason is that they would rather have a poor hog than no hog.

Q.: The Davies people claimed to have 70 per cent. of No. 1's last year?

Mr. Flavelle: The discrepancy is owing to a confusion of terms. Mr. Bowman referred to the ideal side; we referred to commercial No. 1's. We have had about the same number this year as last year of commercial No. 1's.

Q.: Where do most of the softs come from?

A.: A larger percentage comes from western points—Essex and Kent—rather than from the north and east.

Q.: Very few roots are fed in the winter in those countries; would that be the cause of it?

Mr. Grisdale: We have been endeavoring to answer that question for several seasons, and while our conclusions are not final, I think we have reached the conclusion that it is safe to feed roots, and that they will, in almost every case, insure a side of good, firm bacon. Sugar beets probably stand first in the results, and it takes a smaller amount of them than of any other kind of roots. The proportion of roots to grain may vary; we have fed as high as eighteen pounds of sugar beets, working up to it, and then diminishing at the finish, and have had No. 1's every time. Of course, the type was right. In mangels we went as high as 27 lbs. per pig in a day, and they did well on them, and when it was tapered off at the last to nine or ten pounds, the bacon was first-class. We fed turnips with not quite such good results; the pigs did not like them as well, and the meat was not quite as good in quality; in several lots we found one or two that were slightly soft. We had only one experiment with carrots, but the pigs did not do as well. Mangels and sugar beets, and even green clover steeped in hot water and then fed, water and all, gave most excellent results, and proved as good as skim milk.

Q.: How many pounds of roots do you consider equal to a pound of grain?

A.: It takes eight or nine pounds of roots to equal a pound of grain.

Q.: What grain was fed with these roots?

A.: Peas, oats, and barley. In some cases they gave half corn and half peas, oats and barley; but where corn was fed, the results were not quite so good.

Q.: What sugar beets were used?

A.: They were the regular sugar beets?

Q.: Did you ever feed beets with corn?

A.: Yes, with fairly good results. Beets are probably the only kind of food it will pay to cook; then mix with grain, and make a thick porridge.

Hon. Mr. Dryden: I think Prof. Day gave us good advice when he said, "You produce the right stuff." We want the packers to help us, and we will help them. They make the most money out of the right kind of stuff, and we desire to produce it; but it sometimes looks as though they were going out of the way to put obstacles in our road. I do not know that they are; but all the same, do the best you can to produce the right kind of hog, and the rest will work itself out. As to bruises, only very few of them are put on by the farmer, but they are put on by the men who work for the dealers and drovers. The farmer has more sense than to attempt to drive a pig by continually hitting it with a flat board, as I have seen drovers do.

CANADIAN LIVE STOCK PRODUCTS EXPORTED TO ENGLAND, AND HOW TO IMPROVE THEM.

By Arch. MacNeilage, Glasgow, Scotland.

Your methods of doing things in this country are so unique, that when I rise to address an audience I inevitably find myself reflecting on the difference between the two countries. Such a meeting as this, for instance, occupied in listening to a lecture from a professor on the structure of a beef bullock, would be impossible on the other side. Possibly the men there

think they know more about it. Another thing we do not see there is one of these men, whom we sometimes kick at as a middle man, coming on the platform and giving away trade secrets; so that the middle man in Canada must be very philanthropic. Mr. Dunn has told us what kind of cattle are required for the British market. I will endeavor to indicate something regarding the opinion entertained in the British market by the ordinary butcher regarding Canadian cattle, as compared with the cattle that come from other countries.

You understand that Great Britain is bound to be a consuming country; we cannot by any possibility feed our own people. You have a population here which is no greater than the population of our great metropolis alone. Therefore, our ports are open, and I believe your desire is to send in cattle and other products in such a fashion as may meet the approval of our consumers.

The opinion prevailing among butchers and consumers on the other side is that Canadian cattle are good cattle, and that the beef is good, but that it is not as good as the best beef from the United States. I am not an expert in feeding, and I cannot tell you the reason. I am here to tell you the facts as I have learned them there, and leave them with you, in order that you may profit from them as best you may.

The demand there now is altogether for baby beef. We have no classes at Smithfield for old steers, no classes for old heifers, no classes for old cows; and the aim of our feeders is not to put cattle on the market as soon after two years old as possible, but many are putting their steers on the market at 22 months. I am sorry to say that many are putting fat heifers on the market at the same age, which does not conduce to the extension of breeding with us. Baby beef may be less well flavored, but the fact remains that the public want it, and it pays the butcher better to handle it; and so far as our farmers are concerned, it pays them better to put it on the market for the shorter time you feed the cattle, the less the cost. Why is it that there is a complaint that Canadian cattle are not so well finished as some others? This is another question that you must decide.

With regard to dairy products, there are three lines on the British market coming from Canada—cheese, butter, and bacon. Regarding cheese, Canada is easily ahead of all other countries. Through the energy, foresight, and intelligence of my friend, Prof. Robertson, means have been devised for the transit of Canadian cheese across the Atlantic, so that this year, at least, it has landed in a condition that has made it as good as all but the very choicest brands of gilt-edged cheese from our own dairies. Never before has it been put upon the market in such good condition. A few years ago the difference in price between Canadian cheese and our own best product was $5 a hundred. This year the difference was only $1.50. This is an indication of improvement which cannot be gainsaid. Canada, so far as this product is concerned, has only to persevere, and she can hold the position she has attained in the British market for cheese.

But when we come to butter, a shadow comes over our dream. Canadian butter on the British market does not occupy anything like the same position as does cheese. In Scotland, where butter and cheese is still made, to a large extent, by individuals, it is an uncommon thing that a man or woman who makes good cheese succeeds in making good butter; we seldom find that a first-class cheese maker is also a first-class butter maker. I do not know whether the same thing applies in Canada.

As to prices: In Glasgow a few days before I left Danish butter was selling at $29 per cwt.; New Zealand, which was quoted in advance of ar-

rival, at $1 less, while Canadian and Irish creamery were running a neck-and-neck race at $26. Siberian butter was selling at $23, and occupies to-day the position that Canadian butter occupied a few years ago. It is very remarkable, in going through the great stores in which the imported butter is laid up, to note the different ways in which it was packed, and the long distances it had come. The Siberian had come over 3,000 miles, Canadian across the Atlantic, and the New Zealand article a much greater distance. Until a few years ago Siberian butter was unknown on the British market, but it is even now regarded as superior to Canadian; it is in greater favor with pakers; it has more body in it. The demand for it is increasing, and, in consequence, it is rising rapidly in price. The weak point as to quality in all Canadian butter is that it contains too much moisture. We now have a butter standard on the other side, and any butter conaining more than 16 per cent. of moisture is regarded with suspicion, and the owner is liable to be prosecuted. The Canadian butter I saw, and on which my remarks are based, contained, in the judgment of the men handling it, from 14 to 15 per cent. of moisture. You can easily see that the wholesale man who handles it feels that he is running pretty close to the proscribed line. The men who handle and push the sale of your products should not run this risk.

Two other little details were pointed out to me in which Canadian butter was handicapped; first, in the manner in which it was packed. The parchment paper in which the Danish butter was packed was superior to the Canadian, and it could easily be seen that there was room for improvement in that little detail. The keeping qualities of Canadian butter also admit of improvement.

Hon. Mr. Dryden: What is the difference in the paper?

Mr. MacNeilage: I am not a judge of paper, but the paper around the Danish article was of finer quality of parchment. It kept the butter in better condition, and presented it better. Your paper was flabby and soft, and absorbed the moisture too much.

There is no doubt that Canadian butter is gaining on the British market. Last year its price was little more than that of Siberian to-day. You are on the up grade, and I am mentioning these things that you may understand what is advisable to secure a better hold of the market. As I said to the horsemen, the folks on the other side do not ask where anything is bred or produced. We have people on our side who are great believers in marking the stuff. The public never ask where food stuffs are produced; they ask if it is good value. It is the best quality for the price that wins in the British market. Your cheese is the best quality on the market for the price, and none ask whether it is Canadian brand, or what is on the box.

With reference to bacon: the information I have been able to gather from the men who handle bacon in large quantities is that Canadian bacon is receding in value on the British market, and is not as popular as it was a few years ago. The question arises, What is the matter with it? There is nothing the matter with its appearance: judging by its appearance, it ought to be as good as the best. It is a question of its effect on the man who eats it. When the bacon is submitted to that test, it is found to be much harder than would have been supposed. The man who gave me this information said that as a judge he could find no fault with it until he cooked it. His theory is that it does not lie in the curing, but that it is owing to the effect of the system of feeding, combined with the particular method of curing, and that the defect is produced indirectly because of the relation between the feeding and the curing.

Another complaint is that, although Canadian hams look as well as American hams, they do not boil the same. I would suggest that these are matters that might be taken up by your experiment stations, and sifted to the bottom.

I had intended to begin this address with some reference to the exportation of horses. This morning I said some things in a general way. There are three classes of Canadian horses on the British market - heavy drafts, carriage, and what we call van horses, or what you call express horses. In respect to all three classes there is a uniform feeling among all the men I interviewed—and they were users of horses—I always go to the users and handlers for my information—there is universal testimony on the part of horse users in our great cities in favor of Canadian horses of all three grades. There is only one complaint, and that is there are so few of them sent to the British market now, and that they cannot now get the horses, especially the carriage horses, that you were sending some twelve years ago. One of the largest dealers in this class in Scotland told me that he once got 135 carriage horses delivered off one ship, and he had them almost all sold before they were landed. They were sold on their reputation. There was a time when you sent over a horse that was as good as any; but they were not altogether finished in the way of dressing, and some of our smart friends from the Emerald Isle saw that there was a good thing in manufacturing Irish horses from Canada. They used, therefore, to buy them them to a considerable extent, keep them for a little while, and then sell them in Great Britain as horses from Ireland. In this way the Canadian bred suffered, and you will hear jokes about it yet. Your horses are now sold on the market as Canadian horses, and they bring more money if the owner can honestly say that they are from Canada. If you are able to breed carriage horses standing from 15.2 to 16.1, bays, browns, or dark chestnuts, showing a bit of quality, you will find a market for any number of them in Great Britain, especially in the city of London.

Q.: At what price?

A.: The price of such horses in Glasgow by auction right off the ship, in the last week of October, was from $300 to $375 for first-class broughams; for seconds, from $240 to $275; for cobs, standing from 14 to 15 hands, $150 to $225. These are the prices actually paid for the best that can be got now, but they are are not equal to the horses you sent twelve years ago. I do not know whether that pays you or not.

There is an unlimited demand for the highest grade of carriage horses. These men said that they seem to have a good bit of breeding. I understand that most of these horses are bred in this very district, and I suppose you know how to produce them. I remember the dealer I refer to saying that one thing often puzzled him, and that was how it paid Canadian farmers to breed such horses at the money.

With regard to van horses: this is a type of horse you have in your own hands; we do not breed them in Scotland; I mean a big horse standing 17 hands, able to break into a trot when he is drawing a load. With us they are called country horses; they are sent to the country towns by railways for the delivery of goods. They have long journeys, and are called on to do them with speed. That type of horse is always in request. The prices of such horses on the date mentioned was, for first-class, $325 to $375, and for second-class, $200 to $275.

Q.: What kind of draft horses take best in your market?

A.: The Glasgow market is the one I know best. My informant is Mr. George Rolph, Manager of the Caledonia Railway Stables. The draft horse that takes best (we never weigh a horse, but to take your own way of measuring a horse) is one that weighs sixteen or seventeen hundred pounds. If he is bigger than that, provided he has short legs and good quality, so much the better, and so much the more money. But they should be without blemish; by that I mean absolutely free from blemish, including brands. A man is far more critical in buying an imported horse than a native.

Q.: What about hair and bone; it is said that a horse cannot have too much for the Old Country market?

A.: The type of horse we want is the type that won in Chicago last week, either the Canadian or Scotch bred; neither of these are what would be called rough-legged. We have no use for a horse with hair all over the legs, but they should have a bunch down the back of the leg, which indicates a sharp, clean, flinty bone; that is the reason men ask for hair.

Q.: What are they worth?

A.: In Glasgow they are worth from eighty to a hundred pounds. If you put a horse on that market like Marquis of Waterloo, you will get that price.

Q.: What about Percherons?

A.: A number of horses come from the United States which, so far as we can judge, have the Percheron cross. They are very popular with the railroad contractors for country work or van work, but they are not regarded as the best class of lorry horse.

Q.: With regard to parchment paper: do you not think that the butter containing so much moisture affected the paper?

A.: That may be. The butter is packed in little boxes containing five or six pounds. These boxes are lined inside with the paper. Every box is the same size and packed in the same way. I do not think there is any doubt that the paper is defective. The moisture may be an element in it as well.

THE BREEDING OF DRAFT HORSES IN SCOTLAND.

By Arch. MacNeilage, Glasgow, Scotland.

I desire to speak briefly concerning the methods by which horse breeding has been brought to its present position in Scotland, in order that you may, from what I am able to tell you, devise means for extending and promoting horse breeding here. First, however, I wish to compliment Canadians on the quality of the horses bred in this country. Not only has this frequently been demonstrated by the class of horses you have sent to the Old Country, with which our farmers, and especially our street contractors, are familiar, but during the past week it was given abundant demonstration in Chicago. You may not all be aware that in that great contest, judged by Prof. Curtiss, the different breeds of draft horses were pitted against one another, and that the Clydesdales were victorious not only for singles, teams, threes and fours, but in the final great contest in which six representative animals of the different breeds were contesting, the six Clydesdales were easy winners, and that by unanimous approval. Of these six Clydesdales, two were bred in Scotland, three were bred in Canada, and one in the United States. Of the three bred in Canada, one was regarded by Mr. Curtiss as the second

best gelding of any breed on the ground, the best of all being one of the Scotch bred horses, a grand horse bred in the north of Scotland. This is sufficient indication of your interest in draft horse breeding, and of the excellence of Canadian horses. The two leaders were Canadian horses, and the off horse of the middle team was Canadian, and these were qualified to rank with all but the very best that came from the old land. The six combined defeated the team of six Percherons owned by the great Armour firm.

In Scotland, Canadian horses are held in high esteem. Before leaving I interviewed some of the largest users of Canadian horses in Glasgow. Those who have been in Glasgow know that it requires a good horse to face the Glasgow traffic. We do not yoke our horses as they do in America; one horse is yoked to each lorry, which weighs 1,900 pounds, and carries a load of four tons. Each horse has to negotiate that load. It is not a case of hitching up three horses whose combined weight may be equal to the weight that has to be shifted; it is a case of putting an animal, which is inferior in weight but of great power to shift a load by using every muscle in his body. Our contractors say this about Canadian horses, that they are the best broken horses they get to handle; they come well mouthed, well broken, and in every case free from vice. They find them also horses that can be put to work, when wisely handled, in a reasonable time after they land. One thing they invariably find, and that is that it is unwise to put a horse that has come across the Atlantic into hard work right away. Those who have made the best use of Canadian horses work them in short shifts at first, and gradually increase the work.

This is the class of draft horses you have been breeding. It is important for you to consider how you may extend that trade. I can say this for the Old Country, that our contractors and farmers have no prejudices against stock that comes from abroad, provided they can make money by them. You may take that as a good sound principle; we have open ports, there is no duty levied, and if you can supply the stuff out of which they can make money they will ask no questions. At the same time there is the unanimous feeling that horses, both draft and carriage, that come from Canada are better mouthed, better handled, freer from vice, and more completely broken, than horses that come from any other part of the world.

With regard to horses of any kind sent to the Old Country, do not on any account put on any horse a brand, except on the hoof. A horse with a brand on his hair is regarded with suspicion, and its presence reduces his value. The reason is that our contractors had a somewhat curious experience with horses from the Argentine, that were quite the liveliest kind of horses that ever came to Scotland. One of them found himself so completely master of the situation that he bolted up the tunnel of the Queen street subway, and has never been seen since. Put no brand on your horses, or our fellows will be suspicious that they come from Canada via Argentina.

Now we come to consider the question of how this class of horse has been bred in the past. He is appreciated by the man who uses up horseflesh as a good horse. The way he has been bred in the past is the way he will be bred in the future. You will use the same material to build up this class of horses in time to come, and the only question to be considered is how to make the best use of your material. The effect of the victory of the Clydesdales at Chicago—not judged by Canadians, who might be considered to be somewhat prejudiced; not judged by Scotchmen, who undoubtedly are so; but judged by Americans, who have no great prejudices, but judge a horse simply as a draft horse fitted to draw heavy loads—I say the effect of the victory three years in succession, first by Canadian Clydesdales,

and then last year and this of Canadian and Scotch Clydesdales, has been to recover the ground that was lost over these. I believe I am betraying no secret when I say that representatives of some of the firms over there are under orders to proceed either to Canada or to the Old Country in order to fill up the teams with bays like the Clydesdale.

First let me make one remark about Clydesdale horses. I know there is an idea abroad in the minds of some men that the Clydesdale has not the weight or the measurements of some of the other breeds. I am not going to worry you with figures, but will hand to Mr. Hodson for printing some figures concerning the measurements of typical Clydes and typical Shire horses. The latter were not measured by me, but by their owners, and the figures were published by them. These figures in respect to weight, weight of bone, girth, muscular development, prove that while the Clyde is to all appearances a finer horse of less bulk, in reality he is a far heavier horse than he looks when you bring him to the test; he is as heavy as horses of the same age belonging to stronger looking breeds. This is a rule you will find in everything. When man first built these great ocean greyhounds, it was impossible to realize that they were as big as men said they were. Why? Because their lines were so fine; they were built with regard to symmetry. You lost the idea of undue size, and only beheld a beautiful specimen of marine architecture. This is the case with the Clyde. His quality and the uniformity of his build, the fact that he weighs more than he appears to weigh, and that his bone would be found to far outweigh a corresponding length of shank bone of his great competitor—these facts are the explanation of why he appears to the eye of less weight because of less coarseness in the Scotch bred horse. The figures I am presenting will bear out what I have said, that it is not the animal that looks biggest, but the one built symmetrically, which not only weighs most, but measures equally well, if not better, than the coarser looking animal.

We have been breeding Clydesdales in Scotland for about a century—that is, horses of the type that men now identify as the Clydesdale. The system of breeding there and the perfection to which the horse has been brought is largely due to the method devised for the buying and selling of horses, and it is on that topic that I am asked to say something to you to-day. The first idea in connection with hiring of horses in Scotland was that in every district little stallion shows were held in the spring of the year—one at Glasgow, one at Perth, Sterling, Inverness, and so on. These shows did immense good. A number of horses were brought together at the show, perhaps a dozen, and men were appointed to select a horse for breeding purposes, choosing what they regarded as the best for their purpose. When a horse was selected, it was engaged at a fixed rate. A premium was paid down, say twenty, thirty, or forty pounds, and an agreement made that the horse would be engaged by the members of the society, and that certain terms, say three pounds for service and one pound for a foal, would be paid to the owner of the horse.

This plan worked very well for a time, but it was seen that there was a great waste of energy and of money, both for the owners and for the public at large, in holding so many little shows at different points throughout the country, and the Glasgow Agricultural Society took the lead in proposing to the other societies that in place of holding so many small shows, there should be held one great show in Glasgow at a fixed date. The Glasgow Society proposed to bear all expenses and take the gate; the other societies were to receive their tickets of admission, and the only advantage to the Glas-

gow Society was that they should have first choice of horses. That did not prevent hiring by other societies, but such hiring had to be made subject to the selection of the Glasgow Society. The system answered splendidly from 1860 till 1884. Sometimes as many as fifty or sixty deputations assembled in Glasgow from as many districts, and hired as many horses to be placed out in different districts all over the country.

In 1870 the Clydesdale Stud Book was published. Previous to that the best knowledge of the breeding was to be obtained from the catalogues of the horses exhibited at the Glasgow show. When the stud book was published the pedigrees of the horses and the names of their owners became public property, and there was keen rivalry between district societies to have the best horses. The first to take an advanced step was the Aberdeen Society. They entered the arena in 1882, and hired "Lord Erskine" for the season of 1883. That seemed to us to be taking time by the forelock. Of course, other societies had to do something similar. In consequence, in process of time, the great Glasgow Hiring Fair, as a hiring fair, fell off, and in place of fifty or sixty horses being hired, now not more than half a dozen are hired. The different societies held meetings during the winter months, and appointed three or four of their members to visit the leading studs and hire their horses a long while in advance. This year, in April last, the Scottish Clydesdale Horse Breeding Association hired "Labori" for the season of 1903.

A word or two regarding the different ways in which horses are hired. The hiring is done a long way in advance by committees appointed by the different societies. Now I propose to tell you how these societies are constituted. In the case of the Glasgow, Stirling, Perthshire, and several other societies—these are general agricultural societies—they are engaged not merely in promoting horse breeding, but in promoting a great agricultural show, and the hiring of breeding stallions is just a detail of the work. What the Perthshire Society does is to appoint a committee of three or four to visit the leading studs. They are given power to pay a premium of eighty or a hundred pounds for a horse, and to make arrangements of terms with the owner for service. These fees will vary, say ten dollars or a little more for service, or perhaps an equal or a greater sum when a mare is in foal. This agreement is made in the form of a legal contract. That is the system in the case of a society that carries on horse-breeding simply as an item in its ordinary work. But there are other methods, as in the case of the Scottish Clydesdale Association, the rules of which I have also given to Mr. Hodson. This association is restricted to fifty members within a radius between Perth and Glasgow, and the object is to hire a stallion for the service of their own mares. Each member pays a subscription of one dollar; that constitutes the backbone of the society. When he enters a mare for service he pays an entrance fee of $5 per mare. Then he agrees to pay the terms which the committee of the society may agree upon with the owner for the hire of his horse. The premium paid for the horse comes out of the members' subscriptions. The fees are payable by each member according to the amount agreed upon between the owner of the horse and the society's committee, and it is left to the owner of the horse or the secretary of the society to collect the money for each foal after it is known whether the mares are in foal. A horse selected on these terms is usually one that has made his reputation. It is not a case of speculation—that is to say, of young, untried horses. The idea is in the interest of the society to secure a horse that has already established a reputation, and to secure his services for the members' own use. Every

member of the society is under an honorable obligation to give every horse hired one mare at least. If he does not do so, he is under obligation to pay a fee as a forfeit, or to substitute, subject to the approval of the society, a mare belonging to a neighbor on the same terms as for his own.

There is a third system: In some cases a number of breeders in a horse breeding district are desirous of securing for themselves a horse of a world-wide reputation. They, perhaps, have a large number of mares; perhaps some are able to put down ten mares, others five, others four. They are determined to have a certain horse, whose stock, perhaps, has been winning everything. His owner has been standing him at ten pounds per mare, perhaps. When they have eighty mares, which is regarded in Scotland as a fair season for any horse, they go to the owner and say, We want this horse, and will pay you the terms you have been getting from the public; there is a list of the mares; your money is sure: send him to us. This is the syndicate system, and it works very satisfactorily. I do not know any system that has produced better horses or made more money for the owners of the mares, but it is only possible with a horse whose reputation is established, for manifestly it would be a big risk for any body of breeders to take a horse on such terms that had not established its reputation as a sure foal getter, as a getter of good stock, and as the getter of a sufficient number of good stock to repay those who hire him.

There are still some other societies who do not believe in hiring, but who purchase horses. Very few attempt that, because they usually have no power under the constitution of the society to do so. The better way is to form an ordinary limited liability company, and appoint a committee to purchase a horse for them. In that case each member of the company is in honor bound to do his best for the horse, which is general property. In the case of the Aberdeen Company, this system has been a real success, but I know of only one other instance. It all depends on the horse, and that is a considerable risk, and in nine cases out of ten Scotchmen prefer the hiring system. If they hire an unsuccessful horse, there is sufficient honor among our stallion breeders to say, "You were unlucky last year, I will give you a horse next year at a reduction, and try to help you out." Under the hiring system, you only lose your money one year and have done with it; under the purchase system you may become the possessor of a white elephant, which no one wants.

The question has often been put to me on both sides of the Atlantic, What is the best system for appointing judges? We have immense difficulty in getting the right judges. This question is connected with my present subject, because it is of importance in the hiring of a horse that you have a committee to make the arrangements who are not only above suspicion, but really qualified to select a horse that will be generally useful. What I have to say is this: There is no system good unless you have honorable men to deal with, and any system of selecting judges is good when you have honorable men to deal with: it is not a question of the system. Three qualifications are necessary in a man who is to judge stock of any kind: first, that he be a man of unimpeachable integrity: second, that he be a man of approved skill, and not merely skill, but skill that has been demonstrated to the satisfaction of those in whose interest he is going to act. Third, he must have sufficient independence of character and strength of resolution to stand by his own judgment, and not be cajoled into the opinion of anyone else. This is an important qualification. Some of the worst miscarriages of justice that have occurred in Scottish show rings have been with men who

have not had sufficient independence to maintain their own view and refuse to surrender it to men who were less scrupulous but more diplomatic.

Mr. Biggar: I have been associated with stallion syndicates in Scotland for twenty years. In the course of his address, Mr. MacNeilage stated that the Aberdeen breeders were the first to purchase a horse outright for their own use. My recollection is that it was the Netherby Tenantry who took the first step in this direction, securing the horse Dandy Jim. The Dalbeny Society, with which I am connected, followed suit, and subscribed six hundred pounds. We purchased a Clydesdale stallion with that money, and left it with the owner until it could be got in use. In the short interval of ten days he scratched himself with a nail and died, and we were out our six hundred pounds. Since then we have engaged horses under the hiring system. I have on a number of occasions made one of the committee for selecting our horses.

The high terms paid for horses in some districts of our country have been referred to. In one case I think the fee exceeded ten pounds, foal or no foal. I think that if I were to canvass the members of that society, they would tell me the result had not been profitable. Most of the breeders in Scotland have come to the conclusion that these are fancy terms, and that $20 is perhaps as high a fee as it is safe to pay.

J. Hugo Reed, V.S.: The question of Clydesdale versus Shire is a vexed question among the breeders of Canada, and probably of other countries as well. If we had the Secretary of the Shire Association here to-day, I have no doubt he would make the same claims for the Shire as Mr. MacNeilage has made for the Clydesdale. Not being either a Scotchman or an Englishman, I am neither a Clydesdale nor a Shire man. Although I have been paying special attention to horses all my life, I will admit my ignorance, and say honestly that I am unable to tell a Clydesdale from a Shire. If there is any essential difference, and I am unable to tell it, I am not fit to occupy the position I do. I cannot see where there can be any difference, as both breeds were produced in the same way—both by importing stallions from Normandy and Flanders a century ago, and crossing on the native mares. Since that time there has been a constant importation of Clydesdales into England, and of Shires into Scotland, and the blood has been intermixed. If you admit this, we cannot see where the difference is. The difference would be owing simply to climate and environment, and would be slight. If we trace the pedigree of our noted Clydesdale sire "Prince of Wales," for instance, you will find that you come upon registered Shire horses, and the same way with pedigrees of the Shire stallions.

I have no doubt that Shire men here to-day will claim that the Shire horses measure more in proportion to his appearance than the Clydesdale, and that if you take a given size of bone of the Shire, it will outweigh the same size in the Clydesdale. Both authorities claim the same advantages for their breeds. I want to know what is the essential difference between the Clydesdale and the Shire. I claim that if you will allow me to select half a dozen typical Clydesdale stallions and half a dozen typical Shires and put them into the show ring, there is no man who can classify them without having a previous knowledge of them or seeing their pedigrees.

Mr. MacNeilage: I did not know that the subject of the discussion was the relative merits of the Clydesdale and the Shire. However, I am quite ready to go into the question the gentleman has raised. It will take a tremendous long time, and I do not think we shall be any nearer a conclusion than at present, so far as he is concerned, because he makes the admission

that if he saw a certain number of specimens of both breeds he could not tell one from the other. A man who cannot do that does not know anything about a horse. A man who says that up to five or six years ago Clydesdales were being imported into England, does not know whereof he speaks. A man who says that both breeds have been developed within the last 100 years by the importation of stallions from Flanders, is very badly informed on the subject. A man who says that if you were to take six Shires and six Clydesdales and put them into a ring together, that any man who is a judge would class them indiscriminately, has not seen a show of Clydes or a show of Shires, or he would at once know the difference. There is a great gulf fixed between the breeds. I am not going to say which is the better horse; in my judgment they are both uncommonly good horses in their own place and for their own purposes. When you begin to say that one is better than the other you are on dangerous ground, and on ground where you will arrive at no conclusion at all.

The facts concerning the two breeds very briefly are: The Clydesdale has been bred in Scotland, and in a different climate, with different environment, and for different purposes, with a different ideal before the breeders for more than a hundred years. Shires have been bred in England with a different ideal before the breeder. The Shire breeder has had before him the idea of working these horses in three-horse teams. The idea of the Clydesdale breeder has been to secure a horse that is to be pitted against three or four times its own weight. Therefore, the idea of the Clydeslale man is to get a springy horse, a horse that is elastic in his pasterns; a horse with a razor leg-bone, in order that he may be free from splints and other diseases; a horse with far more spirit in it than a Shire, for the reason that he has to exert far more spirit in order to do his work. In London they use great wagons with these great horses in them, with short pasterns. They have to work in lanes and alleys, where there is no room for a horse to zig-zag; it is a case of weight against weight. The Clydesdale horse has more room to work. Watch him going zig-zag up a steep gradient. The short pasterned Shire horse could no more face the task than the Clyde in one of those narrow lanes could accomplish what the Shire horse does. These horses have been bred with a different ideal, and the resulting type is fixed absolutely different one from the other as it is possible to get. The best advice I have for my friend is to take a trip across the Atlantic in the spring and visit the Shire horse show in London, which I do every year. Then let him visit the Glasgow show of Clydesdales, and if he does not discover that he is looking on two breeds, the same in color (that is the one thing which is practically the same), but, barring color, looking upon two breeds that are being evolved with two different purposes in view—if he does not see that and come back able to distinguish the Shire from the Clyde anywhere, he is a hopeless case as a man to talk about horses.

Dr. Reed: I am willing to inform my friend that I have been to England and Scotland, and have seen these shows. This is the most clear case of begging the question I have ever heard. I asked our friend to give me the characteristic differences; he replies that I am a fool if I cannot tell them; he does not tell them himself. I agree that we might argue this question till noon.

Hon. Mr. Dryden: I am not going to let you. These questions are not for this meeting to decide. Mr. MacNeilage is a stranger among us, and should be treated with the courtesy usually accorded a visitor.

Q.: What are the highest terms paid in Scotland to-day for the best Clydesdales ?

Mr. Biggar : I think one has commanded fifteen pounds.

Q.: I think Mr. Montgomery charges twenty?

Mr. MacNeilage : I do not know whether the terms are ten pounds in hand and ten pounds when the mare is in foal. That is not a case of hiring, but where a horse is standing at its owner's risk, and selected mares are being sent to him.

Q.: Have you a lien act that will place a lien on a colt in case the mare is so'd and the service fee not paid ?

A.: Yes ; any mare sold or exchanged is to be regarded as in foal and paid for accordingly by the man who owned her at the time of service.

Q.: A very small fee, if charged here ; from $10 to $15. Don't you think that is too small an amount if the mare proves to be in foal ?

A.: We have not that system in Scotland at all. It is recognized as a fair thing that the breeder should undertake part of the risk. There is a service fee of thirty shillings, or two pounds, and never less than an equal sum, and sometimes more, payable on the mare being in foal.

Q.: What can a good horse be bought for in Scotland ?

A.: For any price a Canadian is prepared to pay.

Q : What are the average service fees of your good horses, not exceptional horses ?

A.: In districts where the breeders are not aiming at show horses, the average terms are forty or fifty pounds premium, paid by the society on hiring a stallion. The fees in such a case would be thirty shillings for service, and three pounds at the outside for a foal.

Q.: Is there a cross of Shire in Prince of Wales ?

A.: That is a hard question to answer, and one that I have not been able to decide satisfactorily. Some of the mares in the pedigree were purchased in Carlisle, which is south of the border.

INSECTS INJURIOUS TO LIVE STOCK.

By Dr. James Fletcher, Ottawa.

There are certain simple remedies by which stock can be freed from insects, but prevention is the cheapest of them all. A common pest of the ox is the blue louse. This may easily be destroyed by ordinary fish oil. If this is carried on the animal's back and down the flanks, the lice will disappear. They are not killed, however, but merely hide in the woodwork of the stall. Something more drastic is necessary, and for this purpose I recommend kerosene emulsion. The formula is one pint of soap to two gallons of water, and twice as much coal oil for your stock emulsion. This is reduced in use by adding nine times the quantity of water.

There is a general impression that coal oil is injurious to stock, and that it will take the hair off. This is true only where the animals have a loose skin and long hair, the reason being that in that case the oil is held close to the skin. The stalls should be sprayed with the same emulsion to disinfect them also.

Commercial sheep dips are all good for destroying lice. Sometimes pigs are infested with lice, and in that case I believe the best remedy is kerosene emulsion. It destroys the lice and leaves the skin in excellent condition. Care must be taken to clean up the pens, however.

The sheep tick is best treated by regular dipping with commercial dips. These dips are so widely known and so easily obtained that they are, perhaps, the best remedies to use.

The sheep louse is a more troublesome pest. When you see sheep biting and rubbing themselves, you may know that the sheep louse is present. The louse is small, and of a bluish-white color, and requires some looking for. The tick is a brown insect. Dipping will destroy lice, but some shepherds prefer to part the hair and pour in kerosene emulsion.

The question of treating parasites is one that illustrates better than any other the advantage of attending to the evil as soon as it is noticed. In introducing new animals into your stable, you should always examine them carefully for parasites. Parasites should not be allowed to remain on stock, as they do a great deal of harm ; the idea that they do not is entirely wrong. There is more loss in flesh from allowing parasites to be present than there is from feeding improper rations. It is well worth while to watch animals and treat them regularly to prevent the increase of these creatures.

An insect that is again increasing in Canada to a large extent is the cattle horn fly. It was originally introduced probably from Europe on imported stock carried into the United States, and from there spread in all directions. It has been known in Canada for five years, and for the first two years did an enormous amount of harm. It then disappeared for about two years, and last year increased again. We are not able to account for that increase ; but it will pay us to do something for it. The best remedy we have found for it is to mix one pound of pine tar with ten pounds of lard, and place the mixture on the backs and flanks of the animals. This spreads, and will protect the animals for two days. After three or four applications, one a week is sufficient. This leaves the animals in comfort through the summer, and they do far better than if neglected. This remedy leaves the animals dirty, but that is a minor objection compared to having them worried by the fly, and thus losing milk and beef.

Speaking generally, the best remedy to use is the one that is most convenient. If you are going to treat your animals regularly by spraying, perhaps the kerosene emulsion will be found as convenient and cheaper than many others. If you have a small number of animals, probably the commercial dips will be most convenient.

There is a common fallacy that Warbles on stock are a sign of health. Nothing more absurd could be proposed. Warbles are caused by a large parasite, which chafes and irritates the animal every time it moves. Imagine a poor animal with a hundred tumors on its back, each containing a maggot with rows of spines on it, which create excessive irritation every time it moves. These are a sign that the animal was not in a good state of health at the time the eggs were laid. When nearly full grown they can be removed from the backs of animals ; it is not a very pleasant operation, squeezing them out with the hands, but it is very effective. I have seen herdsmen slash the tumors open, but it gives a great deal of pain, and is unnecessary. They should be treated directly the tumors begin to appear by placing over the hole through which the animal breathes a small amount of sulphur and lard, in the proportion of one to three. This will prevent the insect from breathing, and it will die. It then dries up, and no great injury is done. If it is left long enough to be squeezed out, and the hole in the hide never closes up, its value is injured.

Q.: How does it get there ?

A.: When I answer this question, it is apt not to be believed. The egg is laid by a fly on the hair of the animal. The animal licks the egg off, which passes down the throat to the stomach, where they hatch and work their way to the back of the animal.

Q.: When I was a boy I saw a lot of these things, but I never see them now; how does that come to pass?

A.: Because you are taking better care of your cattle.

Q.: Describe the fly?

A.: It belongs to the large family, known as Bull Dog. The name Horse Fly is also applied. You may prevent the fly from settling on the stock by spraying the animals with kerosene emulsion.

Q.: Would tar and lard be efficient?

A.: To a very large extent.

Q.: How does the hole come in the warble?

A.: It makes a hole through the skin in order to breathe, and it breathes through its tail. Insects as a rule breathe through a number of mouths along the sides of their bodies, but this insect has a breathing orifice at the end of its body, and lies with that end next the hole.

Q.: Will dry sulphur prevent cattle from getting lousy?

A.: Yes; but it is somewhat expensive.

Q.: Will the warbles that come out of the backs of cattle turn into flies?

A.: Yes.

Q.: What about hen lice on cattle?

A.: That is caused through an accident, but it is one that results in much loss and trouble. Cattle kept under hen roosts are worried by hen lice, which fall down upon them.

Q.: Is ring-worm caused by a parasite?

A.: Yes; it is treated successfully by lard and sulphur.

Q.: What about mange?

A.: It is caused by a mite that operates under the skin, and is very difficult to eradicate. Ordinary treatment is to bring the animal to a good state of health, and apply sulphur and lard externally. Sulphur is effective against all kinds of mites.

Q.: How would you destroy lice on chickens?

A.: The insects come from the crevices in the roost during the night and fasten on the chickens, and then go back again in the day. Take sulphur and lard in the proportion of one to three and make into a ball the size of a hazel nut, and put one under the wing of the bird. Do not put on more than one. Then spray thoroughly the interior of the chicken house with pure kerosene, or coal oil. The perches should be washed with coal oil.

Q.: What about the Bot Fly on horses?

A.: That fly is very troublesome to treat. The fallacy that it does no harm is a very great fallacy. The eggs are laid on the hair of the animal, which bites them off and swallows them. The maggots then hatch and attach themselves to the coating of the stomach, and suck strength from the body of the animal. The only way to prevent it is to groom the horse regularly and remove the eggs. They are very conspicuous, and a large-bladed knife may be used to scrape them off. This should be done every day towards the end of the summer, when the eggs are laid.

Q.: Would coal oil kill the eggs?

A.: Eggs are much more difficult to destroy than insects, and I should not like to assert that it would.

Q.: There is a theory that it is necessary for a horse to have a certain amount of Bots.

A.: It is entirely erroneous, just as much so as that Warbles are an indication of good health.

Q.: What about the Gad Fly ?

A.: It is not a parasite ; it only bothers horses, and does not feed upon them. A horse will get almost crazy when it hears a Bot Fly, knowing by instinct that it will do it injury.

FATTENING CHICKENS FOR THE HOME AND EXPORT MARKET.

By W. R. Graham, Poultry Superintendent, Ontario Agricultural College.

We started our experiments earlier this year, beginning in July, instead of September and October. Our July chickens weighed three pounds when we started to fatten, and we brought them up to five pounds in four weeks. They would then dress at 4 to 4½ pounds. The dealer in Montreal to whom they were consigned, wrote that they were large enough but not fat enough. I have frequently failed to get Rocks and Wyandottes fat enough for the fancy trade. In the August experiment we failed to get the right kind of feed. We use fine ground oats, from which the hull is removed. This year we were unable to procure fine ground oats or whole oats to grind, and were forced to use other kinds of feed. In view of the report that the previous lot were thin in the breast, I resorted to the cramming machine to try to improve them. We found that we could not feed a mixture of barley, oats, and shorts through the machine, as they would not stay suspended in the milk. If the food remains on the top of the milk or settles to the bottom, the machine will clog. To obviate that, I cooked the food. The ration consisted of oats, corn, and barley meal, cooked, and we found that it worked all right. That raised the point as to feeding chickens on cooked food. Some recommend that it gives better results than raw food. Our experience with cooked food was practically a failure. The chickens were fed from the machine and the trough for two weeks with cooked food. The actual gain of 200 chickens was nothing ; some birds lost a quarter of a pound, others a half, and some remained stationary. At the end of that time I selected some of the best and shipped them to Toronto, where they realized nine cents per pound. If we had fed them in the ordinary way on uncooked food, they would have realized fifteen cents. The balance of these chickens were turned out on a run. Some of them died the first or second day. Before we got through with the lot, we lost 30 per cent., death being due to indigestion ; so that the cooked food ruined their digestion.

In our fall experiment we endeavored to find something to take the place of milk. Milk is one of the best feeds we have for fattening chickens, but many farmers cannot spare it, and want something to take its place.

The ration used in the June experiment this year consisted of 60 per cent. of fine ground oats, 15 per cent. of corn meal, 15 per cent. of barley meal, and 10 per cent. of shorts. That was about the cheapest ration I could make. I should like to have included buckwheat, but was unable to procure it. With this mixture we fed whey or milk, or blood meal and water. When whey was fed with the mixture, twenty chickens gained 17 pounds in two weeks, at a cost of 5¾ cents.

Q.: How were they fed ?

A.: The food was made wet with the whey, and fed from the trough. We used fully as much whey by weigth as we did grain. I expected that they would cause looseness of the bowels, but such was not the case.

With milk the gain was 20½ pounds for twenty birds. This experiment took slightly less grain than where we used whey. The cost of each pound of gain was 4 8 10 cents.

Q.: How did you estimate the value of the milk ?

A.: Milk, ten cents per hundred pounds ; the whey we estimated as worth nothing.

The same mixture mixed with 12 per cent. of animal meal, or blood meal, and water made a gain of 20 pounds at a cost of five cents per pound.

Q.: What is animal meal ?

A.: It is a by-product of packing establishments.

The same ration mixed with water took ten pounds of grain to make a pound of gain, and cost ten cents per pound of gain. I also tried an experiment with skim milk, and while it is most satisfactory and sure to produce good chickens, it is not quite a cheap as whey.

Q.: Then the whey showed up very well ?

A.: Yes. So far as I could learn from American poultry men, whey has always been considered of no value for feeding chickens.

Q.: Of what consistency do you make the food ?

A.: Rather sloppy ; like rather thin porridge.

Q.: Do you keep food before them all the time ?

A.: The secret of fattening chickens is, do not feed them when you first put them up, but after the first three days give them all they will eat and no more ; do not quite satisfy their appetite. If they get a little sick they will at once go back.

Q.: Have you ever tried mixing vegetable pulp with the food ?

A.: Yes ; but I have never been able to secure any pronounced gain except with rape ; but I have no certain data on which to base a statement in this regard.

Q.: How do you mix rape with the slop ?

A.: We fed it separately. We tried mixing it, but found that the chickens wasted considerable grain.

Q.: Have you tried mixing animal meal with milk and grain ?

A.: Yes ; but there is no advantage. There are times when this can be done with advantage, but not all the time.

Q.: How often do you feed ?

A.: Twice a day, as a rule.

Q.: How much salts would you give a chicken ?

A.: About a teaspoonful. I pour it down the bird's throat. Of course, they do not get it all ; but we get down what we can.

Q.: How often do you do that ?

A.: When a bird gets sick, I give it a dose every morning.

Q.: Do you give them gravel ?

A.: We give them grit about twice a week. It is cheaper, so far as we are concerned, to buy first-class grit rather than gravel. Grit is ground up granite, and it does its work better ; but it depends on the relative cost. Cinders make splendid grit.

Q.: Do your birds ever have cholera ?

A.: I have not had any experience with it. The greatest trouble I have is with roup.

Q.: How long is it necessary to keep them in crates ?

A.: For two or three weeks ; but if you want a chicken to satisfy the demands of the export trade, it takes four weeks.

Q.: Have you had any trouble with indigestion ?

A.: I mix the food twelve hours ahead, and have had no trouble. If it is mixed just previous to feeding, there occasionally is trouble.

Q.: I have had some trouble with chickens moulting in the crates, when they begin feather pulling, and do not gain.

A.: If you put up chickens just before they are going to moult, you will have that trouble, and it will cost you just that much extra to make the new coat of feathers.

Q.: Do large establishments, like Swifts and Armours, of Chicago, use milk ?

A.: I understand that they do.

EXPERIMENTS AT DOMINION ILLUSTRATION STATION

By F. C. Hare, Department of Agriculture, Ottawa.

The following describes the work of hatching, rearing, and fattening, and marketing chickens, conducted by the Dominion Department of Agriculture : He said that the Department had in operation four illustration stations, where all the work of hatching, rearing, fattening, and marketing chickens was performed. At these stations this year about four thousand chickens were reared. When the cockerels were three months old, they were placed in fattening crates, fatted, and marketed. From the Bondville, Que., Station three hundred well-bred Barred Plymouth Rock Cockerels and pullets were shipped to the Maritime Provinces. These chickens were sold at the nominal price of fifty cents each. The farmers were greatly pleased with them, and there should be a great improvement in the class of poultry reared in the Maritime Provinces.

There are also in operation twelve illustration chicken fattening stations, at which the chickens are bought from the farmers, placed in fattening crates, and then marketed. Some of these were sold in Montreal, Toronto, Goderich, and Sydney, C.B., but the majority will be exported to Great Britain.

Mr. Hare stated that it was the intention of the Department to greatly enlarge the poultry work at the illustration stations, and this fall large poultry houses, capable of housing one hundred Plymouth Rock pullets have been erected at the stations. These houses have been practically built, and are an object lesson to the farmers on modern poultry house construction. Next spring eggs for hatching will be procured from the fowls in these houses, and the Department intends to develop a type of Plymouth Rock most suitable for farm purposes.

The speaker said that in modern poultry houses the requirements were that during the day fowls should have a bright pen to exercise in, and that they should have a warm pen to roost in at night. This could be obtained in the single plan of house with the one exercising and roosting pen by using a drop curtain in front of the roost. In the double plan of house, where there are separate exercising and roosting pens, it is advisable to place a window in the roof of the exercising pen for light during the day, and to have a double wall around the roosting pen ; the rest of the double house

could be single boarded. This style of house was constructed at the illustration stations.

It was stated that the most profitable egg production was new-laid eggs; fertile eggs were also required in the spring. To obtain winter eggs, early hatched pullets were necessary. They should be placed in winter quarters early in the fall, and fed liberally. Animal and vegetable food and shell material should always be added to the diet, in addition to the grain fed. The fowls should be kept warm at night, and an experiment conducted by the West Virginia Station was quoted to show that $22.06 extra profit was realized from 100 pullets having a warm house over the same number of pullets in a cold house. No artificial heat was used, and both flocks had received the same feed and attention. To secure fertile eggs in the spring, it is advisable to give the chickens free range. If this is not possible, the fowls must not be allowed to get too fat, and animal food must be supplied them.

In hatching chickens, Mr. Hare advises the placing of nests on the earth, so that the moisture of the egg can be retained. It is necessary to have fresh air constantly supplied the eggs during hatching, and also moist, warm air about the eggs when the chickens are breaking the shells. To minimize trouble in hatching chickens, it was recommended that several sitting hens be commenced at the same time in one room, and that they be fed and watered together. When a reliable incubator was employed for hatching a large number of chickens, more satisfactory results were obtained than when sitting hens were used for the purpose. Incubators using a forced system of hot air for heating the eggs were recommended.

In rearing chickens, the requirements are that they mature early; that the cost of gain in live weight is low, and that they require the minimum amount of care. To have the chickens mature rapidly, a proper type of breeding fowls should be obtained. This type consists of fowls of medium size, broad and blocky in shape. The breeds referred to were Barred Plymouth Rock and White Wyandottes. The chickens should be frequently fed, and a sufficient quantity of food given each time to satisfy them. To keep the cost of feed low, it was recommended that mashes form the principal part of the ration, and that animal food be included in them. An unlimited grass range is desirable after the chickens are three weeks old. At the Bondville, Que., Illustration Station, Barred Plymouth Rock cockerels three months old weighed 5¼ and 5½ pounds each. Pullets in the same flock were laying when they were four months and one week old. These chickens were fed the first three weeks five times a day; three times a day a mash consisting of equal parts ground barley, low grade flour and bran, and twice a day cracked wheat in clover chaff. Ground oats, ground buckwheat or ground corn could be substituted for the ground barley. After the third week they were fed three times a day; the mash morning and night, and whole wheat in the middle of the day. To realize the greatest profit, it is necessary to market the cockerels when four months old. Numerous experiments conducted by the Department determined that the cost of feed per gain in weight after the age of four months largely increased, and that there was little money in holding cockerels after this age.

To minimize care in rearing the chickens, rainproof brood coops with hinged fronts were advised when the chickens were brought up by hens, or movable houses and indoor brooders when artificial rearing was employed.

In fattening chickens, Mr. Hare stated that a palatable mash was necessary, and also one that would produce a white-fleshed chicken. Satisfactory fattening mashes were: (a) Ground oats (coarser hulls removed); (b) equal parts

ground oats, ground barley, and ground buckwheat ; (c) two parts ground barley, two parts low grade flour, and one part bran ; (d) two parts ground oats, two parts ground buckwheat, and one part ground corn. All the fattening mashes should be mixed with sour skim milk or buttermilk. The time for fattening should be twenty-four, days. The chickens should be starved thirty-six hours, and killed by breaking the neck. They should then be placed on shaping boards to make them more plump, and after being cooled for twenty hours, packed into the one-layer box, holding one dozen chickens. They should not be packed until they have been allowed to cool for twenty hours.

The Department of Agriculture and most of the exporting firms are this year packing their chickens into five different sizes of shipping boxes. These boxes are made suitable for chickens weighing from 2½ to 5½ pounds each. The preferred dressed weight for chickens is four pounds.

Mr. Hare said that the growth of the export business was very gratifying, and that he was also pleased with the prices that the fowls realized. In 1896 the value of the chickens that were shipped to Great Britain was $18,392 ; last year the value of the chickens exported had increased to $38,047. The price that chickens bring in Great Britain is from 14 to 16 cents a pound. The cost of sending them there is one cent a pound from Montreal.

The Canadian trade in fattened chickens has also made substantial growth, and profitable prices were paid for first-class stock. It was said that last August a Montreal produce merchant gave the Department a guarantee that he would buy five hundred thousand pounds of fattened chickens, and agree to pay not less than ten cents a pound for each lot. This guarantee had been carried out, and the fatted chickens had made such a favorable impression in Montreal that the produce merchant had increased his price to twelve cents a pound, and had stated to the Department that he would buy any quantity of first-class fatted chickens for twelve cents a pound. He also offered the Department twelve cents a pound for three tons of fatted chickens held in cold storage in Montreal.

In conclusion, Mr. Hare advised the farmers to greatly increase their poultry business. He believes that there will be no reduction in the price of fatted chickens either in Great Britain or in Canada. At the present time the Canadian export chicken firms and the produce merchants are hampered by an insufficiency of first-class chickens. The poultry trade is still in its infancy in Canada. It gives promise of becoming one of the most profitable and one of the most popular branches of farming.

A bulletin, "Profitable Poultry Farming," was published by the Department of Agriculture, and can be secured free of charge on application to the Commissioner of Agriculture, Ottawa. It gives full information about all branches of the poultry business.

Continuing, Mr. Hare said :

As to winter eggs, I should like to say that we received an offer from Montreal of forty cents a dozen for any quantity of winter eggs that we could supply six weeks from this date. For winter eggs we must have early pullets. These must be put into winter quarters early in the fall, and be given a great deal of animal and vegetable food with the mash. The easiest way to supply animal food is to obtain beef heads or waste meat and boil them, using the water to mix with the mash. The heads should then be hung up in the pen for the chickens to eat. In feeding vegetable foods, the best way is to cut them in two and stick on a nail on the sides of the pen, or put them

in the trough, but do not mix them with the soft food. The majority of the farmers feed too much grain ; they rely too much on grain for egg production, and the hens do not obtain sufficient animal food to make eggs. The egg is almost all meat.

Q.: What is your objection to feeding vegetable pulp with the machine ?

A.: If it is pulped it is all right ; the majority of the farmers have not a pulper.

Q.: Have you tried blood meal ?

A.: It is one of the best foods we have, either for egg producing or for fattening or rearing chickens. There is no more economical food to buy. It costs $3.50 per hundred, but it is almost all good. It is all albumen.

Q.: What percentage do you use ?

A.: One pound of blood to sixteen pounds of meal. Sometimes we use blood right from the slaughter house, putting it in sacks and boilng for a couple of hours.

Q.: Do you ever feed apples to hen ? Will they eat too much ?

A.: I do not think so ; they will supply the vegetable food. The blood is boiled in water. Put it into a bag, and then put the bag into a wash boiler, and pour water over it and boil for two hours. It is then like bran, and you mix it with the meal.

Q.: What about lime ?

A.: The best form is oyster shells or mortar lime. Grit should be in the pens at all times. In feeding for eggs, feed grain in the morning, to make the hens exercise, mash in the middle of the day, and a good grain feed at night. Use the animal food with the mash, and place the vegetables and the grit in the pens. If you follow this course, hens will lay in winter.

Q.: What about cement floors ?

A.: If they are used, I would place three inches of earth on top.

Q.: Do you think fresh air has any bearing on the fertility of eggs.

A.: Yes, I certainly do. Hens that have full liberty will give more fertile eggs than those that have not.

There was some discussion as to a substitute for skim milk. I think the best substitute is blood meal, in the proportion I have given, and vegetable food along with the grain ration.

Q.: Would you ship alive or dead?

A.: I would kill if I had facilities for killing. There is more profit in selling the chickens dressed either at Montreal or Liverpool.

Q.: What about heavy weight chickens?

A.: They are not wanted either in England or Montreal. There is little demand for very big chickens. People would rather buy a small hen turkey; it is younger and more tender.

Q.: Do you bleed the chickens?

A.: No; the price received for the blood in the chicken will always pay for the plucking.

Q.: How much do you pay for plucking?

A.: From five cents a pair to four cents each.

Q.: I understand that in the Old Country they do it for a cent?

Q.: Do you leave feathers on the wing?

A.: On the last joint of the wing?

Q.: Does the local market require this?

A.: No; but it improves the appearance of the chicken.

Q.: Do they require to be drawn?

A.: Not for the Montreal market; some local markets require it.

THE INCUBATOR.

Mr. C. J. Daniels, of Toronto, was then called upon, and explained the working of the incubator using a Daniels incubator as illustration.

Q.: What about humidity?

A.: It is supplied by the atmosphere.

Q.: What if there is a furnace in the house?

A.: The incubator should not be set near a furnace. The cheap incubator is the stumbling block with most people. It will be all right so long as you keep it away from the fire, even if there is a furnace in the house.

Q.: What about the temperature of the room?

A.: The room should not be too cold: it does not affect the machine, but the danger would be when the eggs are taken out to cool. You can aerate longer in a warm room than in a cold one.

Q.: Would it work in the poultry house?

A.: Yes; but it should be in a separate room in the poultry house, because of the dust from the hens.

Q.: (To Mr. Graham): Do you prefer hens or incubators?

A.: It depends on circumstances. If I want to hatch chickens early I would take the incubator. If I have plenty of hens, I will take chances on the hens; the average results are about the same.

Mr. Hare: At our illustration stations we get just as good results from the incubators as from hens. We hatch from 50 to 75 per cent. of all the eggs set. We had a man who did not know what an incubator looked like, and yet succeeded in hatching 60 per cent. He said after the first hatching that you could never get him back to hens.

For raising the chicks the farmer should have three moveable houses, and three indoor brooders. For $50 for an incubator and apparatus, he can raise from 200 to 250 chickens a year without the least trouble. The main point in running an incubator is to give plenty of fresh air. Where incubators are put in cellars with bad ventilation, they never give good results. They should either be in the cellar, with window open on each side, or else out in the woodshed. All this difficulty about moisture would be overcome by the farmer putting his incubator in the woodshed in the summer on an earth floor, or on a wooden floor sprinkled. During the winter, if the incubator is put in the cellar and the windows opened, there is not the least bit of trouble about moisture. We run our incubators at 102½° till the tenth day, then increase to 103°, and then days before the chickens hatch to 105°. I open the slats a little way from the middle to the end of the hatch. At this period the chickens use much more air. This lets out the carbonic acid gas. Nine-tenths of the chickens that fail to hatch are poisoned by this gas. A farmer can get as good results from an incubator as with hens, and with less trouble. He will raise chickens without lice, and they will grow more quickly. We had chickens hatched in an incubator that gave eggs in four months and one week.

Q.: When were they hatched?

A.: In May. I do not believe there is any use in the farmer hatching eggs in winter or early spring. Hatch in early June, and the chickens will grow more rapidly in the early summer.

Q.: Do you get as many eggs from a chicken hatched in the fall?

A.: Yes; I think more.

Q.: Would it matter to set the incubator where it freezes?

A.: No; the main thing is to get plenty of fresh air, and if you have eggs with strong germs you will have no difficulty.

Q.: Would not a direct draft right across the machine interfere with the temperature?

A.: I would not allow a draft right across the machine; it might affect the lamp, and make it smoke.

Q.: Will you get as many fertile eggs from pullets as from older hens?

A.: I prefer to make the pullets lay as many eggs as possible the first year, because that is their best year. Then pick out ten of your best, and use them for breeding the second year. You will get stronger eggs from old hens, but make your pullets do the winter laying.

THE BEST SHAPED FOWL FROM A BREEDER'S STANDPOINT.

By W. R. Graham, O. A. C., Guelph.

I consider that this subject is even more important than is the question of foods and feeding. If you have the right shaped bird to start with, you can get 20 per cent. better results than from the wrong shaped bird, and it takes less food to do it. What we want to know is what the market demands. I am not as well acquainted with the demands of the English market as our own market. As most of our birds are sent to Montreal, I speak more particularly from the standpoint of the Montreal buyer. For that market we want a bird with a long breastbone, not coming to a sharp point, but only moderately deep. The right type of bird should have width, rather than height. I had fifty chickens rejected for top price because they had too high a breastbone, and did not display the meat to good advantage.

Q.: How are you to avoid it?

A.: Breed the right type; select them. I do not care what the breed is when I am selecting chickens for market purposes; it is not a question of breed, but of type. One difficulty is that chickens have no pedigrees; you do not know who bred them, or what kind of stock they came from. We have to take a man's word for it, and it is all a matter of accident.

The right type of bird is one that is short in the legs, broad in the chest, short in the back, wide across the shoulders, and carrying the width back to the tail end. It should have a wide head, a wide bill, and a bright, active eye. With that conformation you are pretty sure to get a good carcass.

The majority of the farmers write us for big chickens; they want one that will make thirteen or fourteen pounds as a cock bird. The long, lanky chicken is not the type to feed. I believe that 25 per cent., and in some cases 50 per cent., of the food would be saved if we had birds of the right type.

THE BLOCK TEST.

By M. Cumming, Associate Professor of Agriculture, O. A. C., Guelph.

There seems to be a much more general feeling of satisfaction in regard to the block test this year than ever before, and we think rightly so. In previous years fair satisfaction was given in the bacon classes, but in the beef and mutton classes the prize-winning carcasses were those that were best adapted to the ordinary retail market. The report of this test, as conducted two years ago, states that many of the animals were considered

too fat; on the contrary, it was the lean carcasses that were most severely discounted this year. This is certainly a step in the right direction, for when in England during the past summer, we visited some of the largest meat markets, and talked with some of the leading men in these markets, from whom we learned that the average Canadian cattle exported to England are not sufficiently finished, and hence bring relatively low prices in the markets of that country. Since then the aim of the block test is educational, it should, we believe, teach not the class of carcass that the local trade requires, but the class of carcass that will bring the top price in England, our greatest market. The cattle and sheep carcasses which received the premiums this year approached very much nearer, in finish, what we saw for ourselves to be the first-class beef and mutton of such a market as Smithfield, London, than any prize carcasses of previous years. The judge in these classes was Mr. Sam. T. White, of Chicago, and the satisfactory way in which he performed his duties well repaid the little extra expense involved in bringing him here. The judging in the bacon classes was done equally as satisfactorily.

Before taking up the individual classes, we would like to suggest that hereafter, where practicable, the exact age of the competing animals be given, in order that we may be enabled to make some statements in regard to early maturity, which has come to be recognized as one of the most important qualities of any good animal.

The following is a brief account of the number of animals slaughtered, percentage of dressed weight, and similar data:

Beef Cattle.

There were in the test this year three pure-bred and four grade cattle—two Shorthorns, one Devon, and four grade Shorthorns. The table below will show the live weights and percentage dressed carcass of the various prize winners:

Breed.	Prize.	Live weight.	Percentage dressed carcass.
		lbs.	
Pure breds.			
Shorthorn	First	1,550	64.9
Devon	Second	1,270	59.6
Shorthorn	Third	1,420	60.4
Grades.			
Grade Shorthorn	First (sweepstakes)	1,300	62 6
" "	Second	1,520	61.4
" "	Third	1,350	64 1
" "	No prize	1,740	68 9

The photographs below are: I.: The first prize grade and sweepstakes carcass, showing about the right amount of fat to lean.

II.: The second prize pure bred carcass, which was considered underdone, but which is almost a mate to the sweepstakes carcass of a year ago.

III.: The grade carcass which received no prize, being overdone.

Fig. 1.—First prize Grade and Sweepstakes carcass, showing about the right amount of fat.

Fig. 2. Second prize Pure Bred carcass, which was considered underdone, but which is almost a mate to the Sweepstakes carcass of a year ago.

Fig. 3.—Grade carcass which received no prize, being overdone (Note This is magnified more than Fig. 1 and Fig. 2.)

Sheep.

There were 69 carcasses in the sheep test — 3 Lincolns, 8 Cotswolds, 5 Leicesters, 9 Oxfords, 10 Shropshires, 10 Southdowns, 6 Dorsets, 6 Suffolks, and 12 Grades.

The table below shows the average weight of both shearlings and lambs, the average percentage of carcass dressed, and the percentage carcass of the first prize winner in each class:

Breed.	Class.	Average live weight of all in class.	Average per cent. dressed weight.	Per cent. dressed weight of first prize carcass.
		lbs.		
Lincoln	Shearling	235	57	57
Cotswold	"	178	52.6	56.5
"	Lamb	102	46.8	46.3
Leicester	Shearling	209	60	59.9
"	Lamb	121	51	53
Oxford	Shearling	164	56	58.4
"	Lamb	124	50	51
Shropshire	Shearling	168	57 5	60.9
"	Lamb	104	52	51 4
Southdown	Shearling	142	59	62.5
"	Lamb	112	54	53 8
Dorset	Shearling	157	55	58.9
"	Lamb	106	49.5	52
Suffolk	Shearling	148	56	57.7
"	Lamb	111	48 (2nd prize)	51 7
Grade	Shearling	179	58 5	59.1
"	Lamb	127	52 8	53.9

The judge declared the sheep a beautiful lot, surpassing considerably the corresponding exhibit at Chicago. In his opinion the best carcasses were among the grades, but we may mention the fact that those grades that won the premiums showed high breeding, in one or two cases being scarcely cognizable from pure-breds. Next in order of merit came the Southdowns, and then the Shropshires. While the prizes for the most part went to animals that were relatively better finished than the average, as will be seen by the previous table, yet anything like waste or gaudiness was severely discounted. Moreover, in comparison with the prize sheep at the Smithfield, England, show, they were very much leaner, as will be seen when we consider that the first prize and sweepstakes shearlings there dressed on an average 67 per cent.

There was no sweepstake prize here, but had there been, it would have gone to the grade lamb that was first in its class.

Hogs.

In all there were 60 hogs in the block test—45 pure breds and 15 grades. They were shown in groups of three. The pure breds consisted of 27 Yorkshires, 9 Tamworths, 6 Berkshires, and 3 Chester Whites.

Yorkshires won 1st, 3rd, 4th, 7th, 8th, and 11th prizes.

Tamworths won 2nd and 5th prizes.

Berkshires won 6th and 9th prizes.

Chester Whites won 10th prize.

The following table will show the breed, average live weight, and average percentage, dressed weight, of most of the prize winners:

Prize.	Breed.	Average weight.	Average per cent. dressed.
		lbs.	
1	Yorkshires	207	76.8
2	Tamworths	190	78.6
3	Yorkshires	199	76.8
4	"	197	80
5	Tamworths	199	78
6	Berkshires	178	77 5
10	Chester Whites	182	77.5

Among the grades and crosses, first prize went to pigs sired by a Tamworth boar, and out of a Yorkshire sow. They averaged 187 lbs., live weight, and dressed 74.7 per cent.

The second prize was won by pigs of a Tamworth-Berkshire cross, averaging 187 lbs., live weight, and dressing 78.9 per cent.

The third prize was won by high grade Yorkshires averaging 220 lbs., and dressing 80.7 per cent.

Sweepstakes went to the first prize pure breds—a group of Yorkshires.

On the whole, the exhibit was very good, although there was almost too great a difference between the quality and finish of the sweepstakes carcasses and the others. The judges considered the sweepstake carcasses about as near the ideal as could be, and perhaps the contrast with such prime specimens set the others at a little disadvantage. However, the average was higher than it has ever been, but we look forward to still better exhibits in succeeding years.

CARE OF SHEEP ENTERED AT WINTER FAIR.

By R. H. Harding Thorndale.

The sheep I have entered in the competition at the Winter Fair were handled as follows: The yearling wether was the second prize winner last year as a lamb. After the show he fed with the breeding ewes for the winter, getting mostly clover hay and roots, occasionally some ensilage and cut clover hay and straw mixed. He ran with the breeding flock until about Sept. 1st, after which time he was with the show flock. They were fed about 2 lbs. of grain daily (mostly oats), with what turnips they would eat, added about Oct. 20th, along with a small run on pasture and some clover hay. The wether lambs were fed in about the same way during the latter part of the time. During the latter part of winter, they could get some grain and roots by going through a creep into a small pen by themselves. The ewe lambs were fed somewhat heavier on grain, but taking in the fall fairs, they lost some flesh. As to the approximate cost of producing such, I cannot say exactly, but would estimate that the grain and roots fed would cost $3 per head. This, however, should be no guide to the producer of ordinary butcher's stuff, as they can usually be put into good sale condition without the use of grain and roots, especially during the summer season. The grade wether was sired by a pure bred Shropshire ram, and out of a registered Dorset ewe. He was lambed in February, and fed since about the same as the other pure bred wethers.

By John Hunter, Wyoming.

The Dorset sheep shown by me at the Winter Fair did not do well the first part of the season, on account of the wet weather. The shearling wethers were wintered with the rest of the flock, fed on clover hay, fodder corn, and some grain in the spring. The two wether lambs were born in May, and they were all together on the pasture during the summer, some of the time on permanent grass, and the latter part of the season on alfalfa and red clover. On the first of November we started to give them six pounds of oats a day for fourteen days, and nine pounds a day for the rest of the sixteen days, and on the first of December we took them off the grass and fed them on alfalfa hay, and chop composed of one-third peas and two-thirds oats—ten pounds a day—and about half a bushel of sugar beets each day. The grain ration for one month and seven days was 298 lbs., which would be worth about $3, and the sugar beets would be worth about 40 cents, which would make the cost of extra feed about $3.40 for the six head—two ewe lambs, two shearling wethers, and two wether lambs.

CARE OF POULTRY BY EXHIBITORS IN DRESSED POULTRY DEPARTMENT.

By Scanlan Bros., Ennotville.

In order to insure success in duck culture, the first act should be to secure first-class breeding stock.

They should be vigorous, early-hatched birds, and should be on a diet quite distinct from what they would were they intended for market.

Each pen of breeders should be selected early in the season, and mated about the end of January. To obtain the best results, there should be no more than five ducks and one drake in each breeding pen.

Young ducks usually lay earlier than old ones, but we think their eggs are not as fertile, especially the first ten or twelve, so that in the end we find very little difference, but our preference is for birds one year old.

When the breeding birds are housed, we feed them three times a day; soft feed morning and evening, and a little whole grain at noon. The soft food consists of equal parts of finely chopped bran. This is well mixed, and wet with milk just enough to make it crumbly. We often mix in some small boiled potatoes, as they are very fond of vegetables, and will relish them in any form, especially when confined and in the winter; so their noon meal may consist entirely of chopped vegetables, such as pulped mangels or turnips, table scraps, etc. They should get a little meal twice a week at least, and have access to grit and water at all times. When the birds are at liberty, and can get all the grass and water they want, the following feeding is sufficient: One good meal in the morning, composed of barley meal, bran and oat chop, with a little meat or liver boiled and cut in small pieces; and at night a light feed of whole grain.

After they commence laying they should be fed rather sparingly, just what they will eat up clean. Never leave food lying around. Duck eggs intended for incubation should be kept on end in a cool place, and turned frequently; they should not be kept longer than three weeks before setting. Eggs, no matter how carefully handled, are better if fresh. Our ducklings are all hatched in the natural way, under Barred Plymouth Rock hens, and

we have been told by several duck breeders that they had very poor success in trying to hatch duck eggs with incubators. We never put more than nine eggs under one hen.

The best material for preparing the nest is chaff or cut hay, placed upon a bottom of fresh earth in a shallow box, about eighteen inches square, or large enough for the hen to turn as she pleases. A few nest eggs should be placed under the hen and left there a day or two until she becomes settled. She should have feed and water near her. If any of the eggs are broken, the remainder should be carefully washed in warm water as soon as noticed.

When hatching out there is danger of the hen crushing the little ducklings; therefore, they must be watched and removed to the oven, or some warm place, to dry off. They soon become quite active, and may be then placed under their mother. If any of them appear weak, pour a few drops of water down their throats; it seems to revive them.

The first two weeks the young ducks should be fed on stale bread, moistened with milk, hard boiled eggs, and a handful of oatmeal. Feed four times a day, all they will eat, and have water in a shallow vessel always before them. Keep the hen in a coop without any bottom, and with a lath front. An enclosure for the ducklings is easily made by placing two long boards, one foot high, V shape, in front of the coop. This should be changed every three or four days, so that the ducklings will have fresh grass. They should be kept in the shade if possible, as they are very sensitive to the heat of the sun, up to the fourth or fifth week, and at all times they seem very fond of lying under trees and in other sheltered places.

The third week they may be fed oatmeal and bran or shorts, with a little corn or barley meal added, wet with skim milk, so as to make it crumbly. Give them meal scraps and chopped vegetables occasionally; also a little coarse sand or fine grit.

After they are six weeks old they should get stronger feed, and more corn or barley meal may be mixed in the mash. Feed three times a day all they will eat. When eight weeks old, if they are to be marketed as soon as possible, they should be given about two-thirds corn meal and one-third chopped oats. This should be mixed to a mash by using a liberal supply of milk, as they seem to fatten better when the feed is wet with milk, and it gives the flesh a white shade so desirable at present. They require plenty of grit and meal, and less green food. At twelve weeks old they should be ready for market, and dress at least six pounds each.

They are killed quickly by piercing the brain with a sharp knife. The bill is held open and a cut made in the roof of the mouth just in front of the eyes. They should be plucked immediately, while warm.

The young ducks intended for breeding purposes should be carefully selected early in the season, from the earliest hatched flock. The best developed birds should be kept and fed lightly on vegetables, meat, bran mash, etc., so as to induce them to search for natural food, and this exercise helps to keep them active and healthy.

By J. W. Clark, Onondaga.

The all important thing in raising poultry for fattening is selecting proper conformation. There should be just as much care exercised in the selection of poultry as any other class of live stock. If we want birds to fatten easily, and give us a nice plump carcass, we must get birds that possess certain qualities, namely: A good, full breast, short broad back,

good fair length of breast bone, and as shallow as possible. If you have a deep breast bone you will have a boney-looking bird, though it may carry a fair amount of flesh. Other important things in selecting is to get short legs, and shanks well set apart, a short, well curved bill, and a broad head with bright eye. These points indicate a strong constitution, which is very essential in heavy feeding. I aim to have my breeding stock in first-class condition in the breeding season to insure fertile eggs. Hens should have abundant exercise and fresh air. Hens cooped and fed on fattening feeds all winter will, as a rule, be very fat in the spring, and the fertility of their eggs will be very low. Feeding too much soft and stimulating food injures the fertility considerably. For laying hens, a ration of grain in the morning, thrown in the straw or litter, to induce scratching, a feed of roots later in the day, and a mash with a mixture of animal meal. I prefer blood meal; 1 lb. to 16 gives good results; or if you can give green ground bone once a day there is nothing better. A liberal supply of grit and oyster shell should be before them at all times.

My chicks were mostly hatched by an incubator, as I consider this method much superior to the old way of using hens. If I am crowded for brooder space, I place 25 to 30 chicks under a hen that is clucking. She will care for that number quite easily if the weather is not too cold.

Chicks should not be allowed to eat till they are from 24 to 36 hours old. Nature provides for that length of time. The first feeds should be bread crumbs or rolled oatmeal. A little coarse sand should be scattered on the floor where they will have access to it. Avoid feeding too much sloppy feed while very young, or they are apt to have diarrhoea, which is fatal to many young chicks. Receiving a severe chilling is very apt to cause this trouble also. When the chicks are ten days old, a little grain may be given. At night and morning a mash, composed of finely ground oats (hulls removed), ¾; corn meal, ¼; blood meal, 1 lb. to 16 birds. The brooder or coops should be kept clean. Coops should be changed to fresh ground every two days at least. Watch for lice. If any appear, use insect powder or some reliable lice killer. Where lice prevail, disease is sure to follow. At from four to five months of age I crate my chicks, going over every one to look for lice, and dust with sulphur and insect powder, half and half mixed.

Lice breed very rapidly in feeding crates, and birds do not make much gain in weight if infested.

Chickens fed on too much food rich in carbon hydrates and fats are very apt to become stunted. Foods richer in protein will insure more rapid growth.

I have fed a mixture of one-third ground oats, one-third buckwheat, one-third chop, mixed with skim milk. Once a day I put a small quantity of blood meal, 1 to 20. Great care must be exercised in the first few feeds after they are crated. Feed lightly three times a day for two or three days. After two weeks, twice a day is sufficient. If young birds have done well at two weeks they should be ready to market. Birds from three to five pounds seem to be in greatest demand.

CHICKENS.

By W. E. Wright, Glanworth.

After the little chickens chip the shell, and are wholly hatched out, they are left in the nest for about twenty-four hours. They are then taken

out of the nest and put with the mother hen in a coop sufficiently warm, dry, well protected, and facing the sun. For the first day or so they are kept in the coop, and then if it is dry, warm, sunshiny weather, they are let out. The first food they get consists of stale bread, damped, but not made too wet, with milk, and for a change of diet they are given small cracked wheat and granulated oatmeal. For drink they have clean water, or sometimes milk.

When two weeks old, they are let run in the orchard to pick up their own living, and are left so, only getting a few scattered wheat tailings now and then till the time they are started to fatten. They were put in the coop to fatten November 17th, and were fed a diet of ground barley and oats, mixed with skim milk, for breakfast; wheat at noon, and oats and corn at night, having skim milk to drink.

METHODS OF CARING FOR AND FATTENING TURKEYS—BY EXHIBITORS OF TURKEYS.

By W. E. Wright, Glanworth.

My experience with turkeys has been a very successful one, extending over quite a number of years. I breed from only fine healthy stock, saving my best for that purpose, and do not breed from the same stock long. Turkeys differ from other classes of poultry in many ways. The domestic turkey is but a few removes from its wild ancestors, and much of that wildness remains. They cannot be confined profitably, and the larger the flock the greater the disposition to roam. I usually change my gobbler every year, but sometimes keep him a second year if the offspring are healthy and good, and select the best hens from my own stock, as they are less inclined to wander away than strangers. New blood I consider a great point which the average farmer neglects. He often gets birds too near home, which are often inbred, and that is the cause of a great many deformities. I usually import a gobbler, and in doing so aim to choose one that is healthy, a vigorous grower, and of strong constitution. This spring (1902) I imported two very fine toms, one from Boggstown, Ind., and the other from Brush, Colorado. These I mated with the very best hens selected from my own stock. When I notice my turkey hens manifesting intentions of beginning to lay, I prepare nests for them around the orchard out of brush and old boards, making them as much like a brush heap as possible, as the turkeys are more apt to lay in them then. I place the nesting material on the ground, as the eggs hatch out better if nest is not too dry. I gather the turkey eggs as soon as laid, if possible, and keep them in a room with not too warm a temperature, taking care to turn the eggs every day. I set the first turkey hen that becomes broody (always towards evening) on as many eggs as she can nicely cover, in the same nest she laid in, putting in fresh nesting material, and dusting her well with a good insect powder first. I close up the nest at nights as a safeguard against dogs and other animals, but always open it early in the morning, so that the hen can come off and on, as she likes to hunt her own food and water. I leave ashes around the yard, giving the hen ample chance to dust herself. When I notice the hen off the nest during the incubation period, I go and see of the nest and eggs are all right. If an egg has been broken, I put in fresh nesting material, and sponge the eggs off with luke-warm water.

A few days before I expect the eggs to chip, when the hen is off feeding, I dust the nest well with insect powder. I also dust the hen if possible. It is important that the little turkeys get a start free from lice. When the little turkeys are hatched out, I run my hand gently under the hen and take all eggshells from the nest, as a shell is apt to slip over an egg and prevent it from chipping, thereby smothering the little turkey. I leave the turkeys in the nest until they are twenty-four hours old, and then I thoroughly dust them and their mother with a good insect powder, and put them in a large, roomy coop in the orchard, facing the sun, closing the coop for the first few days, to prevent the little ones from running out. The first feed I give them is stale bread, soaked in milk, and pressed out quite dry. Care must be taken not to have the food too wet or sloppy. I feed them the first few times inside the coop. When they are a few days old, I open the coop, so that the little ones can run out, and I give them a change of diet, such as hard boiled eggs mixed with stale bread crumbs, and rubbed fine, with a sprinkle of black pepper occasionally, feeding them a little every two or three hours for about a week. I also feed them curds (made from sour milk), with tender onion tops and dandelions cut up fine. The onion tops and dandelions I consider very good for them, as they act as a tonic and increase their appetites. I always keep plenty of clean drinking water before them. I find it a good plan to sprinkle sand or fine grit around where they are fed, so they pick it up with their food, and it helps them to digest it. Care must be taken to move the coops daily to a fresh, clean spot.

When the turkeys are about two weeks old, I find that they can take such food as granulated oatmeal, and for a change I bake them a cake composed of bran, shorts and cornmeal mixed with milk and a little soda, and feed to them crumbled up fine. I dust the hen and little ones every day to keep them free from lice, and I also find it a good plan to keep road dust or wood ashes near the coop for them to dust in. When the turkeys are twenty-one days old, if it is nice, warm, dry weather, I give them their freedom in the day time, letting them wander around the fields picking up grubs and insects. I always bring them home at night, feed them fine wheat screenings, and drive them into their coops. By feeding them when I bring them home, they learn to come home themselves. When they are large enough to roost, I let them roost on the trees, or, better still, on a flat-topped board fence, as this helps to keep their breast bones straight. When the turkeys start to roam through the stubble fields, they do not need to be fed much until fall; then I find they do very well on a mixture of grains, such as corn, oats and wheat.

By Scanlan Bros., Ennotville, Ont.

We usually keep four young turkey pullets, the largest, best marked, and most vigorous of the flock, and get a healthy, vigorous young cockerel to mate with them. The young hens lay earlier than the older birds, and if well fed will lay in the spring before the snow banks are away from the fence corners and rubbish heaps, where they like to lay. They are then more likely to lay about the buildings, and save a lot of trouble watching and searching for nests. A turkey will lay fifteen or twenty eggs, and then will want to set. If she should happen to lay, and want to hatch in a place not safe to set her in, she can be taken at night and placed on a nest in the barn or a shed, where there will be no danger of the nest being destroyed. The turkey and nest should be dusted liberally with insect powder two or three

White Wyandottes.

A pair of noted S. C. White Leghorns.

times before the young birds come out. When the young birds are twenty-four hours old they should be taken from the nest and put in a box, with the bottom and one side taken off and lath nailed on the side. It should then be placed over the hen, with the open side to the ground. The box can be moved to fresh ground every day. The young birds should be fed a little and often. The feed for the first few days should consist of eggs and milk boiled together until thick. After that there may be bread crumbs and onion tops chopped up and added to the eggs and milk. When the birds are a week old the eggs may be omitted from the feed, and bread made from low grade flour and bran given instead. It should be fed dry, but a little water should be kept where they can get just enough to wet their beaks. When they are a few days old they should be treated for lice. We use an ointment made of lard and a little white precipitate. A favorite hiding place for lice is at the base of the long quills on the wings. As soon as the young birds are old and strong enough to follow the mother, let them have their liberty to go where they please. If they are brought home at night regularly for a while and fed, they will soon learn to come themselves. They do better if allowed to roam in the woods and the fields, where they get bugs and insects, and they grow stronger and healthier than if confined in a small yard. To fatten turkeys, get buckwheat one part, oats two parts, and barley one part, chopped as fine as possible, and the hulls sifted out, dampened with milk, and a little of Spratt's poultry food added. Feed three times a day, and let the turkeys run at large. They will fatten rapidly. Kill by wringing the neck, and pluck while warm.

By Jas. Ford & Sons, Drumquin.

The key to success in turkey raising is vigorous stock to breed from, and plenty of range for the young growing turkeys. We select the best colored and largest pullets to breed from, and generally have the best results from pullets. We prefer mating a yearling tom with pullets, although we have had good results with mating cockerel with pullets.

When the hens begin to look for nests in the spring, we place some barrels or boxes in some secluded place around the buildings, putting in some straw, and also placing a nest egg in each nest. The turkey hens very seldom wander off to the woods if the nests are made in time, generally laying in the nests we prepare for them. We wait until two hens become broody, and set both at once, giving all the young turkeys to one hen. For the first few days we feed bread soaked in milk and squeezed dry, gradually adding a little cracked wheat, till the end of about the second week, when we discontinue feeding the bread altogether. We keep the turkey hen confined until the young turkeys can follow the mother through the fields, always bringing them home at night, and after a short time they generally come home themselves. After the grain is cut and grasshoppers and other insects become plentiful, turkeys can find their own living until they are specially fattened for Thanksgiving or Christmas market.

By A. G. H. Luxton, Milton.

In breeding my variety of turkeys, I mate my pullets with yearling toms, as I, as a rule, have good luck with this kind of mating, and change the gobbler when I think it necessary to have new blood.

When incubation is over, I keep hen and young ones in an inclosure for two or three weeks, until they are thoroughly strong, and then turn them

A trio of Canadian winners.

The 1st Barred Plymouth Rock Pullet, "Ontario," 1902.

The 2nd Barred Plymouth Rock Pullet, Guelph, 1902.

loose. After harvest they wander over the grain fields, but come home at dusk and are given all they can eat, then we do not see them again until the following evening. At the present time (November) we feed them three times a day on a mixture of wheat and corn.

By W. H. Beattie, Wilton Grove.

Turkeys are mated in the month of March, and the young birds are hatched the first week in June. The birds are kept in a large coop for two weeks, the chicks being allowed to run in and out at leisure. I feed the chicks on boiled rice for two weeks. I then let the hen run at large. I do not feed any more until the first of October, when they are fed on oats, wheat, and corn, until they are fat enough for market.

REPORTS OF JUDGES AT WINTER FAIR, GUELPH.

Coltswolds.

By James Douglas, Caledonia.

Ewe under one year. This was a fine lot, and well brought out. First was a splendid model, well covered, and firm fleshed ; second was also a good one, but not so even and form-topped, and not so good through the heart. Third and fourth were good, even lambs, not so fat, but of good type. Wether, one year and under two, was a good lot also. First was a good one, and very even ; a grand skin, and stood on good, sound legs. Second was also a very good one, but not so firm over the loins as first. Third was a fairly good one, but wanted a better covered top. Fourth was a strong sheep, but not fat.

Wether under one year. This was a fairly good lot. First was a good, sound lamb, very even, and well fleshed. Second was a good lamb, but wanted some making up in front. Third was an even lamb, but not so fat. Fourth and fifth were fairly good lambs, but not fat.

Three wethers under one year. First were a very good lot. Second lot were not so fat, but good shaped lambs. Third were small, and not so well covered with flesh, and had not so good legs.

Three ewe lambs. These were good lots. First prize had two good lambs ; the third was too lanky ; had not enough substance, and was not a strong lamb. Second prize had one choice and two not so good.

Cotswolds throughout were a better lot than last year's exhibit.

Lincolns.

By James Douglas.

Ewe lambs. This was a good lot, and very even. First prize was a very fine one ; a very firm handler, and of grand type, standing on good legs. Second was much the same, but not so fat. Third was a fatter lamb, but not so even in front.

Wether, one year and under two. First was a very fine sheep, firm-fleshed, and of good type, standing on good, strong legs. Second was also a good one, but not so compact ; more open in side, and not so even fleshed. Wether under one year was a good lot. First was a grand lamb, not so fat as second prize one, but of firmer and better quality. Second prize was fat, but

not so even fleshed, and third too long in neck, and apt to weaken in back. Fourth, a good lamb, but not fat enough.

Three wethers under one year. First were three good, even lambs. Second were of similar type, but not so well fleshed.

Three ewes under one year. First was awarded to three grand lambs, well covered and very even. Second was a very nice, smooth lot.

Leicesters.

By James Douglas.

This was a very strong class, and a lot of good ones were shown. Ewe lambs. A long string of choice ones. First was an extra good lamb; standing on good legs; a grand top, well sprung rib, and very even, with an extra good skin. Second was also a very fine lamb, very strong loin, and of good quality. Third was a very good lamb, but not quite as well covered with flesh on shoulder, but a good handler. Fourth was a good lamb, but not so compact; a little open in side, and not so firm. Fifth was a good, lengthy lamb, but a little weak in the loin.

Wether one year and under two. First was a very firm-topped sheep; good, even handler, and well covered. Second was a good kind of sheep, but not so firm a top. Third and fourth were not so good quality.

Wether under one year. This was a strong lot of lambs; good ones; very even, and firm handlers. First, second and third were grand lambs Fourth and fifth were good lambs also, but needed more flesh.

Three wether lambs. First prize lot was very even, and good quality. Second was much the same. Third was not so even a lot, and not so well covered with flesh over loin.

Ewe lambs. This was a strong lot, and some good ones were not placed at all. First was three grand lambs, also the second. Third was a nice, even lot, but smaller.

Grades.

By James Douglas.

This was a very strong class, and a very hard class to judge; there was a lot entered, and all pretty good ones.

Yearling ewes. First was a specially good, well-fitted sheep, firm handler, and of good quality; if anything, wanted a little more covering over the shoulder. Second was also a good one, but did not handle so firm, and was a little bare on loin. Third was not so even on ribs, but had good quality. Fourth and fifth were too coarse, and wanted more fitting.

Yearling wethers. This was a good class. First was a very even-fleshed sheep, with well-sprung ribs and very compact. Second was also a firm handler, and even fleshed; better covered over shoulder than third prize. Fourth was a fine type of sheep, and a good handler.

Three wether lambs. First and second lots were very smooth, even lots, firm, and of good quality.

Wether lambs. First was a good, strong lamb, of a feeder's type, and will make a good one. Second also was a fine lamb, and a firm handler. Third was a little bare on loin. The fourth was a good lamb, but not well covered with flesh.

Ewe lambs. First was a good lamb, and of good quality; well-sprung ribs and a good chest. Second, also a good lamb, but not so even as first.

Third was of good quality, but was a little bare on top. Fourth was not so firm on top, nor so well sprung in the ribs. The fifth was bare on top.

Southdowns.

By J. C. Duncan, Lewiston, N.Y.

Ewe under one year. First prize, a compact, even lamb, firm fleshed, and typical Southdown. Second prize not so well finished or fitted as the first one, but of excellent quality, with the finest fleece and skin of any lamb in the bunch. Third prize, a lamb of more scale than any of the other two, but showed a weakness in the back.

Wether, one year and under two. There was little choice between the first and second prize sheep. The one put first was better in spring of rib, and somewhat thicker in the loin. Third prize sheep lacked only firmness in the flesh to have put him further up.

Wether under one year. First prize lamb an outstanding winner in the bunch; perfection all through. Second and third prize lamb not nearly so good. Second one not of as good type, nor as firm in the flesh. Third prize lamb a level-backed sheep, but somewhat soft in the flesh.

Dorset Horns.

By J. C. Duncan.

The above class were all shown chiefly in field condition, but were typical individuals of the breed.

Shropshires.

By J. C. Duncan.

Ewe lambs. First and second prizes were awarded to very typical lambs, with excellent fleece and skins. Third prize, one an outstanding winner from a consumer's point of view, but lacking some of the minor points necessary to make a choice breeding ewe, it being necessary in this class to stick more close to breed type than any other class in the show. Fourth prize lamb, full of quality, with the exception of leg of mutton.

Wether, one year and under two. First prize sheep a very even one on top and bottom; flesh very firm. Second and third prize sheep fully as heavy as the first one, but lacked in evenness and firmness of flesh of the first prize sheep. Fourth prize sheep of very excellent quality, and finished superbly, and the only thing kept him from first place was his size. He was considered by the judge too small for a yearling Shropshire's wether.

Wether under one year. First prize wether lamb an excellent production, fitted to perfection, with back loin and quarter prominently developed. Second and third prize lambs very good types, and well fleshed, but not so firm handlers as the first prize one. Fourth prize winner a big, strong, hard-fleshed lamb, but bare on the loin, which would tend to make a poor saddle of mutton.

Tamworths.

By Wm. Jones, Mt. Elgin.

The exhibit of Tamworths on the whole was very good throughout. A. Elliott & Son, Galt; D. Douglas & Son, Mitchell; and Chas. Currie, Meadowvale, were

ton, were the principal exhibitors. Section for barrows, over six months and under nine months, brought out some good ones. D. Douglas & Son received the first and second awards on a pair of capital good barrows, of the correct type and nicely finished. Third and fourth awards were placed on the entries of Chas. Currie, who had a very good pair, well finished, but a little short and uneven in shoulders in comparison to those placed higher in the awards. Fifth position went to the entry of A. Elliott & Sons, which was a very good type, but too small for his class. Section for barrows, under six months, was next in order, and in this section A. Elliott & Son captured first and second on a nice, typical pair of Tamworths, well finished, and standing well up on feet and legs. Third and fourth awards went to the entry of D. Douglas & Son on a very good pair of pigs, but with scarcely so much length as those placed higher in the awards. Section for sows, over nine months and under fifteen months, was the next to come before the judge for inspection. D. Douglas & Sons won first and second on a capital pair of sows, being very much alike, and possessing both size and quality, with not a particle of coarseness about them anywhere. A. Elliott & Son secured third prize with a sow of less scale, and not so typical as the first and second prize sows. Fourth and fifth went to a pair of very young sows, and considerably under size, the property of Chas. Currie. Sows over six and under nine months brought out a very good exhibit, A. Elliott & Son winning first on a very even, nice sow, of good Tamworth type, standing on good feet and legs. Second prize fell to the honor of D. Douglas & Son on an extra good sow of almost perfect conformation, from a Tamworth standpoint, but one which had gone a little wrong on her feet and legs, which prevented her from taking first place. The other two entries, from the same herd, full sisters to this sow, were equally as good as this one in every respect, but were even worse on their feet and legs than the second prize sow, and had to be placed outside of the awards altogether on account of it. Third and fourth positions were awarded to the entries of Chas. Currie on a good strong pair of sows, well finished, standing on good feet and legs, but nothing like as typical as those placed higher in the awards. Sows under six months old made a very nice exhibit. A. Elliott & Son captured first and second prizes on a very nice pair of sows of excellent Tamworth type, very uniform throughout, and standing well on feet and legs. Third and fourth went to D. Douglas & Son on a good, useful pair of sows, a little lacking in length, and not so typical as the first and second prize sows. Fifth position was awarded to Chas. Currie on a small sow, very much undersized for her class. Three pigs, the offspring of one sow, was next in order, and brought out representatives from all the exhibits. D. Douglas & Son captured an easy first on his two sows that had won first and second in section over nine months and under fifteen months, and his first prize barrow under nine months making a trio that would be very difficult to beat. Second prize went to A. Elliott & Son on his two sows that captured first and second in section under six months and his barrow that captured first in section under six months. Although young, they made a very nice exhibit, all being very uniform throughout, and of an excellent type. The entry of Chas. Currie in this section was also a very good lot, not as good a type as those securing the awards.

YORKSHIRES.

By Wm. Jones, Mt. Elgin, Ont.

The exhibit of pure-bred Yorkshires, in point of number, as well as the quality of the exhibit, excelled anything seen before at the Winter Fair. The

section for barrows, six months and under nine months, brought out representatives from the herds of J. E. Brethour, Burford ; Jos. Featherston & Son, Streetsville ; R. F. Duck & Son, Port Credit, and H. Dedells, Breslau. An outstanding winner was found in the entry of R. F. Duck & Son, which for conformation, size, and finish, was as near perfection as we may expect to find them, standing on excellent feet and legs, and carrying nothing but good, firm flesh. The second and third went to the entries of H. Dedells for an excellent pair of barrows of nice finish, but of scarcely as much length, and a little lacking in size in comparison to the first prize barrow. The fourth position was awarded to J. E. Brethour with a good, useful pig of the right type, but a little undersized for his class. Section of barrows under six months came next, and brought out a nice lot. The first place was awarded to J. Featherston & Son on a nice, typical barrow of excellent conformation, standing on good feet and legs, and nicely finished throughout. Second prize was placed on the entry from the herd of R. F. Duck & Son, which was of just as good type and of equal conformation, with feet and legs properly set under him, but a little undersized in comparison with the first prize pig. Third and fourth prizes went to H. Dedells on a good pair of pigs, well finished, but a little short in body in comparison to those placed higher in the awards. Section for sows over nine and under fifteen months brought out a very good lot from the herds of J. Featherston & Son, J. E. Brethour, and R. F. Duck & Son, and there was not a poor individual in the lot. The first position was awarded to R. F. Duck & Son on a capital sow of great length and conformation, and extra well finish, standing on splendid feet and legs. The entry of J. E. Brethour was a very close second with a sow of just as much length and equally as good feet and legs, and with a slightly better head and jowl, but lacking a little in finish. This was the only reason for placing her in second position. The third prize went to J. Featherston & Son on a sow which possessed just as much quality as either of the preceding sows, but scarcely as much length and size as those placed higher in the awards. Fourth prize was placed on the other entry from the herd of J. Featherston & Son on a sow of greater scale than the third prize sow, but more inclined to thickness on back, and not as good a type throughout. Sows over six and under nine months made a very strong showing, no less than nine good ones being forward. In this section R. F. Duck & Son again came to the front on a very typical sow of good length, and nicely finished throughout, standing well on feet and legs. Second and third prizes were placed on the entries from the herd of J. E. Brethour. They were strong, useful sows, of good length of body, standing well on feet and legs, but scarcely as typical as the first prize sow. The fourth prize went to the entry of J. Featherston & Son on a sow of excellent type, well finished throughout, but not good on her feet and legs, and on that account was set back to fourth position. Had her feet and legs been good, she would easily have been first in this class. There were still a number of very good ones left outside of the awards, but not quite as good type as those securing the prizes. Sows under six months brought out a lot of good ones. First prize was captured by J. Featherston & Son on a very typical sow, nicely finished throughout, and standing on good legs and feet. Second went to same exhibitor on a strong, useful sow, but scarcely as well finished, nor as good a type as the first prize sow. Third and fourth awards went to the entries from the herd of J. E. Brethour on a pair of sows of very uniform type, standing on good feet and legs, and carrying the very best of flesh, but a little undersized in comparison to those placed higher in the awards.

Three pigs, the offspring of one sow, came next in order, and brought out representatives from all the exhibitors. The first place was placed on the trio from the herd of R. F. Duck & Son, with his first prize barrow, over six months and under nine months, his first prize sow, over six months and under nine months, and a full sister that had not been shown in regular class, making a very strong trio indeed. Second prize was placed on the entry from the herd of J. E. Brethour on three sows, all over six months and under nine months, although scarcely as perfect as some of the individuals in the first prize group, yet they were more uniform throughout, and made a very nice exhibit.

Chester Whites, Poland Chinas, Duroc Jerseys, Essex.

By Thos. Teasdale, Concord.

Chester Whites. There were only two exhibitors, D. DeCourceys and W. E. Wright. The pigs were in nice condition, not over fat, and very good representatives of the breed. All the first prizes but one went to DeCourcey, and most of the seconds.

Poland Chinas. Only one exhibitor, W. M. Smith, Scotland. He had a very nice lot, and had them well fitted. He had only one entry in barrow, six months and under nine. In all the other sections he had either two or three entries.

Duroc Jerseys. Only three exhibitors, W. N. Tape, Bentpath ; W. M. Smith, Scotland, and J. Hammill & Son, Harwich. Barrow, six months and under nine. W. N. Tape took first, second and third. In all the other sections W. M. Smith took first. The prizes all went to Smith and Tape.

Essex. Two exhibitors, Joseph Featherston & Son and T. A. McClure. I think they were the best lot of Essex hogs that have ever been shown at the Fat Stock Show.

Barrow, six months and under nine. McClure first. Second and third Featherston & Son. In all the other sections Featherston & Son took first.

Berkshires.

R. H. Harding, Thorndale.

The Berkshire exhibit was not so large as last year, but it was, as usual, of very good quality. Barrows under nine months were all lengthy ; the three winners were reasonably smooth, the fourth one was a trifle coarse. Barrows under six months were a good lot, but not extra lengthy. Sows under fifteen months. First and second winners were exceptionally good ones, long and straight, with well sprung ribs, standing up well on good legs. Third prize sow, a fairly good one, but much younger than her competitors. Sows under nine months. A real good, even lot. Sows under six months. A grand bunch of the bacon type. The exhibit throughout (with very few exceptions) shows steady improvement along that line.

Grades.

By R. H. Harding, Thorndale.

Grades were not at all numerous. In barrows under nine months there was one very good, lengthy fellow. Barrows under six months. First and second prizes were Berkshire grades of good quality. There was a Tamworth grade unfinished. Sows under nine months. First, Chester grade ; second,

Yorkshire grade ; third, Tamworth grade. All good, lengthy ones. Fourth prize one was rather thick. Sows under six months. The first three were Berkshire, Yorkshire, and Tamworth grades of good quality. Fourth was decidedly unfinished. The grades are not making the strides forward that the pure-breds are. There has not been the same attention given in selecting and breeding them as in the case with pure-breds.

REPORTS OF THE POULTRY JUDGES.

By Sharpe Butterfield, Windsor.

Light Brahmas—Cocks : First, quite a good, all-round bird, an easy first in the class. This bird possesses rather a good Brahma head, and neck hackle about the most perfect in Brahma males. He has a good, full breast, and would be better if a little longer on back. He has a very good-shaped tail, but has not grown it yet to its length ; grand colored flights, and if his back were free from ticking would make him a hard bird to beat. Second, rich in wing color. This bird has the best shaped, best colored tail in this class, and if he were larger looking would give first cock quite a race. Third, quite a good, all-round bird, and would be very creditable if first and second were away. I noticed most of the males had considerable white in tail feathers, and were very deficient in hackle and wing color. One bird I noticed with lots of color, but his neck was so smoky that he could not be considered a good bird, for smoky neck hackles are an abomination to a Light Brahma enthusiast, and should not be tolerated in a breeder's yard, for, once used in a breeding pen, his daughters are forced to accept of their sire's bad fault, and then, invariably, cockerels produced from the sire's daughters bring back the neck of their grandsire ; it is hard to eradicate. I am speaking from long experience, and I surely believe it. Hens: First, a gem for color, in neck, hackle, and tail coverts, fairly good wing, and shown in the pink of condition. Second, looks like her full sister, but not as good in particulars, but in prime condition, which helped her. Third, not so clean and distinct in neck hackle or tail coverts, and not in such show condition. I noticed one or two hens with almost white tail coverts and very pale neck color, with flights nearly white. They reminded me of an old breeder who was showing Light Brahmas in New York Madison Square Garden. His name was Stephen Spencer. After I had got through judging, Stephen came to me and said : "Why, the first hen don't weigh ten pounds." I said to him : "Stephen, one hen is worth ten dollars a pound, and the thirteen-pound hen is worth ten cents a pound." And I am saying this to those who own males or females, so very deficient in color, to read the Standard, and get birds with color such as the Standard describes, and do not go on breeding from birds so defective and expect to win, for it is generally the advanced man who gets the prizes. Cockerels : First, an easy win, and about the only fault the bird has is too much ticking on back. He certainly carries a grand neck, both in shape and color, and tail nearly as good as the second cock bird. Second, too short in body, and much too short in back : too much on the Cochin order ; not bad in color of wing or tail. Third, rather a nice, promising youngster, but too young for the company he was in. Fourth, too slim in build, and too narrow on saddle and too pinched in tail. As a cock bird he will have worse flights than now, and at this time the flights are very deficient. Pullets : First, second and third, an easy win, both for shape, size and color. First pullet best in neck hackle and tail coverts, and about in other respects equal with second and third. Fourth pullet, not in good

show shape, or would have been higher; and, taking the Light Brahma class as a whole, though fairly good, the birds that did not win were a disgrace to the others. If we want to breed good Light Brahmas we must have good neck hackles and good tail coverts, or there is not much to be admired in a Light Brahma, neither is there much value attached to them in getting the fancy prices some of those so-called gems command. Mr. Arthur Sharp paid two hundred dollars for third prize cockerel in Boston, liking the bird so well for his grand color in neck hackle, tail color, and wings. I have no doubt he bought him more for a breeder than a show bird, or would not have won third at Boston show. Dark Brahmas—Cocks: First, a big, good, all-round bird, in grand show shape; one may say perfect in feather, and very clean and bright in his surface color. Second, another good, sound bird, a little too long in leg to win over the first. Third, a peach if he were a little larger; he would be just about top if larger. Fourth, a grand-shaped bird, but not so good in flights as previous three birds, neither so clean in white. Fifth, will be, and look, much better when further out of the moult; loses on condition of plumage. Hens: First hen looks much like the Pan-American winner. Second, a grand hen, large, just a little deficient in the pencilling at the end of her cushion, and don't think there would have been much room to find fault if she had been placed first. Third, hen not so large, but better pencilled on fluff and finer in her pencilling. Fourth, a rather nice, big hen, but coarse in pencilling, but good ground color, and deficient in fluff pencilling.

I may say a word here about the pencilling on the fluff of Dark Brahmas or Partridge Cochins: unless they are as well pencilled in the fluff as they are on the lower part of breast, I do not consider them by any means ideal. For we who see the big shows at New York and Boston, do see that in both kinds; not all of the class, still we see some, especially the winners; for if the fluff is well pencilled, you may rest assured the rest of the bird will be full of grand pencilling. Cockerels: No doubt those who saw first cockerel that was shown two years ago at the Ontario, thought him a marvel, but not such a marvel as the first this year. He is certainly a grand, big bird. I call him one of the best cockerels I ever saw, and, oh! so large and sweet, and so grandly behaved. Second, cockerel quite a peach; well developed. The third prize cockerel and second prize cockerel do not leave much to be desired, if they had more size. Third cockerel looks like first at Toronto last fall: full grown, but he is not nearly so nicely put together as first and second, and a little too long on legs for present showing. Fourth, next best in class. I noticed one nice-looking cockerel, but he looked like a Dark Brahma. If he had had size he could have been placed creditably. Pullets: First, an easy win, grand, and very clean in color, looks like a peach, just beginning to get its bloom. Second, gone by in bloom. Third, rather nicely pencilled. Fourth, gone by and deficient in saddle pencilling. Regarding this class, at very few shows, if any, will there be as many good birds shown this winter, at least, I think so. I think I could trace all the winners to one of our truest and best breeders on this vast continent, for his name is cherished by all Dark Brahma breeders, and when he sits down to send winners to any show they generally get there as if they were doing it for vengeance. Buff Cochins.—This class was as good or equal to what I have said of Dark Brahmas. Cocks: First, good and sound in color, and rather a fashionable color, but not large enough to show in fast company. Second, size almost to burn, and has lots of grand Cochin characteristics: a little higher in color than we wish for in a show bird: and, mark my word, he will, in about a

month from now, be quite a bird. I noticed quite a little white showing in neck hackle, which will seem to disappear as his feathers grow, for I am sure his feathers are not much more than one-half the length. I noticed in his leg and foot feathering feathers seemed only half grown, and the same I noticed on body, and if he finishes as I expect by the third week in January will be a hard one to run against, take him for an all-round Buff Cochin. The third cock a long way behind first and second, and fourth further away yet. Hens : First hen, I never saw a better of her size; I have seen hens larger, but hardly as full of quality, and if she were larger, a man could almost count a certainty, no matter where he showed. Second hen in the very pink of condition, hard to hold her like she appeared at the Ontario ; a little higher in color than the first hen, but very even. Third hen rather a good hen, but was beat fairly against first and second ; her condition would place her behind. She looks like first at Toronto and London. Then, she was in bloom, but, like a drooping rose, she has lost her charms. Fourth, rather a good kind of hen, but not in it for quality. Cockerels : First and second, two hard propositions for any exhibitor to show against, both in the grandest condition possible, and I believe if a man who had any taste, who had never seen a Buff Cochin in his life, were asked to place the two cockerels he certainly would have placed them first and second, and he would not have been far out which bird he had placed first, for the first cockerel has the soundest and evenest of color, while the second has the defined Cochin saddle and tail, and stands, as a Cochin should, with his head and cushion both on a level, and it is necessary for these things in a show room. Whichever bird was placed first, it gives no room to find fault with the awards, by someone who did not place the awards. In balance of class, all that were any good were not matured enough to give them a ghost of a chance. Pullets : First pullet, a large, big, open pullet, grand in color, and full of grand things, especially so on front hock and thighs, and back hock grand. Second pullet smaller looking, a little higher in color, more like second hen ; a grand shaped cushion, and tail, not being in full, took something away from her finish, but she is a good one. Third, a very good pullet, if first and second had been away from the Ontario. Fourth, very nice, but too short and close in feather, but a good bird to put in a breeding yard. It gives hopes to the breeder she will produce something good. In conclusion, I must say that I had never seen the birds until I placed the awards, only I noticed the cushion of second prize pullet as I was going up the alley, and I am sure the judge, when he commenced to judge the class, was as much surprised as any exhibitor. Partridge Cochins—Cocks : First, an easy win. He looked to me as if he had been bred by an artist, so much ahead of the class of Partridge at the Ontario. He resembled the first cock at Toronto last fall, but much larger in size. Second, much smaller, but was grandly striped in neck hackle and saddle. Third, largest bird, but so deficient in hackle and saddle striping that his size pulled him third. Fourth, a big bird, but lacked striping. I noticed two more cocks in this class, which felt very sick, probably because they saw so much better birds than themselves. Hens : First, only lacks size of being a very high-class bird. Second, not quite so good in ground color, not so good in cushion, and first and second prize hens had the fluff I spoke of in Dark Brahmas ; every feather has true and fine pencilling, as on their breast feathers. Third, a larger hen, but lacks quality against first and second. I noticed several hens in this class that, change their feathers and they would pass for grand-shaped Brahmas. Cockerels : First, quite a grand striped bird, and very rich in color ; very

fine in cushion and Cochiny shape. Second, a grand Cochin, low down, well furnished legs and feet, and very bright in color; quite a good cockerel. Third, a very similar bird to second, only not quite so grandly striped. Fourth would do for a first if the other three cockerels were at home. Pullets: First, very finely pencilled, grand cushion, and quite a good shaped Cochin, but her bloom is about all spent, and is going back in show condition. Second and third, a little coarser in pencilling, and not so pronounced in cushion. It would not be much of a mistake which were placed over the other. I noticed one pullet, very rich in ground color, coarse in pencilling, and, if it had not been for her ear lobes looking white, should have placed her in the front, though she lacked greatly in cushion shape, as against second Buff Cochin pullet. In regard to Partridge, quite an improvement since last year, and they can be made a thing of beauty by good care. Black and White Cochins—Just enough birds to win first and second; a very good class for merit, but too slim in numbers to go into lengthy details. A good opening for someone who wants to breed birds where competition is not very strong, and real good Black Cochins or good White Cochins do not go begging, for I know you cannot buy at less than $50 each good ones, that have a good fighting chance to win first at the Boston show. Take the whole of the Cochin classes, for quality and quantity they were marvellous.

Langshans, Black—First cock a grand shaped Langshan male, not any part of him resembling the Cochin family; very rich in green sheen, and very free from purple or purple bars, with a grandly furnished tail and lots of it; a grand thing for a Langshan to have, if shape of tail and color is good; looks very much like first cockerel at Boston in breeding pen, which was far ahead of any Langshan male in the breeding pens. Second, a good, stylish Langshan, and very similar to first cock, but not far enough through the moult to win over the first. Third, another grand, stylish bird. There were three more cocks in this class which will be pretty good birds when tails are full grown, but when a heavy bodied Langshan is shown with tail about one-half grown, he looks nearly as much like a Black Cochin as he does a Langshan, especially if legs are not long enough to compensate for the large body and loose feathers. Hens: First hen, a grand Langshan; looks like first hen at Boston, first hen at Toronto this fall; an easy win at present time; a little longer in back than standard requirements, but excepting that particular, she is a high-class bird. Second hen quite a good, distinct Langshan. Third, a very good one if the other two were away. I noticed one very good hen, but her legs are too short to fight in very strong competition. Cockerels: Description of first cock would just about fit him in every particular. Second, quite a good one, especially grand, with that great big grand-colored tail. Third, a good bird, but tail not large enough to win at present time over first and second. Fourth, too young for such company to get higher. Balance of cockerels all too young for the company they were in, excepting one, which was not straight on his legs, and quite weak on legs as well. Pullets: First and second in their very best show shape, grand in style and color, and very fit for fast company. Third, not quite so long on leg, and carried her tail lower than first and second. Fourth, a grand pullet, but not large enough to compete successfully with the three pullets ahead of her. Several pullets in this class will wonderfully improve with good care for the next few weeks. Taking the Langshan class as a whole, I think competitors in that class who had the opportunity of seeing, will all admit it was the largest and best class ever shown in Canada. Now, in the White Langshans, which were not very large in number, I found very high-class birds, and several others amongst them, no doubt, before they left home for the Ontario, looked good enough to win the firsts.

S. C. Brown Leghorns—Cocks, ten in number. First, large and rather a good shaped Leghorn, well up on legs, and about the best striped saddle, a saddle so good that seldom I find as good. Second, a gem, but is on the small side, and rather too short in leg for very fast company. Third, another good bird, especially good in neck hackle and saddle striping; same fault as second cock, short on legs. Fourth, another good bird; in fact, out of the ten there were six good cocks. Hens, fourteen in number. First hen a good size and easily first, being probably the evenest pencilled female in the class of Brown Leghorn females. Second, another good hen. Third and fourth, both good hens, if the other two had been away. In the class of fourteen hens, eight of them were really good ones. Cockerels, twenty in number. First, a real grand, upstanding bird, with grand comb and about perfect in ear lobe, and a little nicer in color of neck hackle than the second, though the second is a good bird, but looks as if he was overshown, not feeling as fit as the first; a hard one to beat when in good shape. Third, another grand cockerel, grand in color and good in leg color. Fourth, another good one, and right in line with the three preceding ones. Fifth, a grand striped fellow, a little short in leg, and will take a very good bird to beat him, and one could easily find five or six more that could win almost anywhere in Canada but at the Ontario, for at the Ontario Brown Leghorns were a grand class of A1 birds. Pullets, twenty-two in number. First much resembled first hen, both in color and size; rather an easy first. Second, another grand, large pullet, not so fine or even in pencilling as first; very close up to the first, take her all around. Third, another good colored pullet; lots of size. Fourth, close up to her. Fifth, a good-sized pullet, and ran very close to those placed ahead of her. In this class there were only about five pullets which ought to have stopped at home, but they answered a good purpose at the Ontario, in that the exhibitors could see the difference between good ones and poor ones, and I am sure I never saw as many good Brown Single-combed Leghorns at any show in the United States or Canada. Buffs—Cocks: Nine in number. First, an easy winner; take size and conformation and color, did not leave much to be desired. Second, a very good one, and very sound in color. I should have liked to have placed a grand colored bird second, but the lower side of his secondaries was nearly pure white; it was quite a difficult matter to find a good one after examining the first cock. Hens, twelve in number. First, a good-sized hen, with grand, even color from head to tail, with a good pair of yellow legs. Second, a little smaller, but sound in color, and grand in flights; good leg color. Third and fourth, very good hens, indeed, and so was the fifth hen. Cockerels, thirteen in number. First, a peach, and had hardly a place you would wish to make him better, only he would be better if a little fuller in body. Second, a bigger cockerel, good in shape and size, but not so even in color, but an easy second. Third and fourth and fifth, all very good cockerels. Pullets, fifteen in number. First, second and third, not much choice, only in head furnishings. Fourth, another good one, but not so even in color. In this class were about eight real good ones. The best lot ever shown at the Ontario.

Games—Black Red—Cocks: First probably one of the best ever shown in Canada; a long, clean head, well tucked-in throat, very long and clean in neck shape, and very short and good in color of neck hackle; breast and body of the finest quality; tail just as fine, and sickles fine, and carried in the most fashionable way; legs probably the straightest in the whole Game class, and set on right, on the outside line of the body; toes strong and straight,

with grand outer toe; and this bird did not require poking up with a stick to get him to stand in position. He was always standing about perfect, no matter how often we went to look at him, showing that his natural position was to stand such as some of he best cuts ever made on a Game Standard cock, and for shortness and hardness of feather none was near him, unless it was the fourth prize cock, which did not show himself as one would wish; no doubt the cock was not feeling at his best. Quite a prominent exhibitor in Black Reds said to me after the awards, "No one could have grumbled had you placed him second." One thing in an exhibition Game I like to see is good length of leg, and the legs sound enough that he can move round without showing a weakness in legs; otherwise I should have placed him second in probably the largest and best exhibit of Black Red cocks I ever saw, not excepting the Crystal Palace. Second, a real good bird, both in shape and color, but much looser and softer in feathers; but he could use his legs much better than the fourth prize cock. Third, not so large as second, but a gem for color in neck hackle and saddle, and I thought him fairly entitled to third. The fourth I have pretty well described in showing why I did not place him higher. First hen just as easy a winner as the first cock, and (to Game fanciers) you can keep her in your mind as a model. Second hen a good one also, and in grand show shape. Third and fourth both cracking good show hens. Cockerels: First a walk-away, an easy winner, always in position, with the sweetest tail I ever saw on a cockerel; looked like a son of first prize cock. I remember placing him first at London this fall, and our old friend, Wm. Barber, said in London, "That is a grand cockerel, but I cannot buy him." If he had succeeded in buying him I should have congratulated him on his purchase, for he is a gem, read about but not often seen. Second looked a son of second prize cock, and the same description would suit him to a nicety. Third and fourth, real good birds, but lacked finish of tail with the two preceding cockerels. Lots of pretty good birds did not get in the money; good to win almost at any other show in Canada excepting the Ontario. First pullet not by any means the largest in class, but a gem in build from stem to stern. Second, a good bird, especially good if first had been away. Third, a good bird, and did not disgrace her owner. Fourth, a grand model, but not as grand a color as first, second and third. Had she been as bright and clean in color she could have been moved up quite a little higher. I noticed when exhibitors were allowed in the aisle to look up the winners, both vanquished and winners all wore smiles, and I am sure I did not know who owned a bird, only from my knowledge of placing cock first and cockerel first at London last fall, I thought them the same birds, and I did not see that owner there, or, no doubt, he would have said I was the best judge that ever lived. Our old friend, Jas. Main, who has been showing Games under me for thirty years, said to me in Black Red Games: "That's the best judgment I ever saw in England or America." That was very gratifying to me, after he has abused me for about twenty-nine years in saying I always favored his strong opponent for the last twenty-five years, while the opponent has always said the same to me. Time is certainly improving both their views of me and also their knowledge of good birds. It surely was a strong class of exceptionally grand birds. Brown Reds—First cock quite ahead in the class, excepting not showing himself to the best advantage, and if he were as hard in feather as the fourth prize cock, would consider him pretty near an ideal, excepting face not quite dark enough. Second, third and fourth all good birds, especially so in color. First hen a pretty good hen, but was not much ahead of the other three winners. In fact, there were six

good, cred table hens in the class, and prizes had to be awarded partly to those having the best hackles and lacing on the breasts. Cockerels: The two best will be, when in good show shape, very good birds. They were not in the best of condition, but their good qualities, color, etc., carried them through. Pullets: First, an easy win, and if she lives will be a winning hen, unless sickness or accident befalls her. Second, quite a compact pullet, grand in color. Third, a very good pullet, and also the fourth. Black on the back of some of the pullets looked just like black silk velvet, a thing very much wished for in Brown Red females, almost as coveted as the grand lemon hackle, saddle and wing bow and space between the wing bow and back. Pyles—First and second cocks easy winners, and had it not been for red ticking in the throat would have considered them about the best cocks I ever saw in Pyles. Third, very fine in color, but lacked length of leg and carriage. Fourth, a very good bird. Hens: First hen a gem, and a large gem at that. Second, another good hen, but not in it with the first. Third, another good one. Cockerels: First, the best developed bird in the class, made him an easy win, though the other winners may go by him when as fully developed as first cockerel. Pullets: First, an easy win, much after same pattern as first hen. Second and third, hardly up to expectations, but good birds. Duckwings—First cock just as easy as one could desire, and if he would hold his neck out at full I would call him the best Duckwing cock I have seen for years. Second and third, shorter on leg and smaller birds than first; not much to choose from, taking them all around. Had hoped to see a heavier class of Duckwing cocks; if memory is right, only three in number. Hens: First and second hens very close, and I could have done no injustice had I reversed the awards. My reasons for placing first hen were she was longer in neck and a little finer in tail, while second hen was larger and better in carriage. Third hen, a very good hen. Indian Games—Cocks, first in grand show shape, and take a real good bird to beat him in condition as he appeared at the show. Second cock just about a model, but fear his best days have gone by, or, maybe, the bird was not well. One thing I noticed about second cock, the width across the shoulders was nearly the length of his back. Third, a grand color and shapely, but not very good in comb. I was glad to see the great improvement in shape of Indian Games. A few years ago you hardly saw a really good shaped male. Most of the males a few years since resembled anything between a Minorca and a Dorking. They had good color, but poor shaped. Hens: First, a grand, shapely hen, and, though slightly varied in color, she still was a grand hen. Second, not so shapely, but a little more even in ground color. Third hen, a very good hen also. Cockerels: First, quite a grand shaped bird, and very good in color; of good, stout, short legs, carried well apart. Second, another good all-round bird, but not so good in legs and body. Third, a little longer in legs, but grand in plumage. First pullet probably the best shaped female in class, well laced, and an easy winner. Second, another grand pullet, with very high quality of lacing. Third, another grand laced pullet but not so good in shape as first and second. Indian Game class must have been very gratifying to the Association in numbers to what they used to be a few years ago. In any other variety of Games—First cock a real grand Malay cock. First hen quite as good in shape of body as cock, but a very good hen. Second, Sumatra cock, not nearly as good as first Sumatra cockerel, and I don't know whether it is just to place Sumatras along with large Malay Game, for it surely makes them look very, very small in size. White Indian Game showed up very well in females, but cannot say much for the males.

Bantams—Black Red Game Bantams—Cocks, 11; first, a grand bird all over, and especially grand in neck hackle and saddle color. Second, very much same stamp of bird. Third, another good one. Fourth, quite a good little bird, not so close in feather as the preceding ones. This class was a good one, scarcely a middling good bird in the lot. Hens, 12; first hen quite a leggy, short feathered hen, with good shoulders and neat in neck and shape. Second, a very similar hen, and it would not have made much wrong which hen was first. Third, another good hen, and so was the fourth, and several other good hens had to be put back for want of education. Cockerels, 15; first looked as if he had just come from some milliner's shop. I would like him better if he were a wee bit longer on leg and neck. One thing about this bird was that he knew how to show himself to the best advantage. Second, a good bird, but wanting in education to the first bird. Third and fourth, both good in shape and color. Fifth, a very good bird, but was hungry, and would not show himself to the best advantage. This class of cockerels was a good one, and a grander lot I do not think was ever shown at the Ontario or any other show in Canada. Pullets, 15; first, small and quite genteel in appearance. Second, much of the same order, both in color and general makeup. Third and fourth, close up. Fifth, another good one; lacked behavior to get higher. This class was as good as the cockerel class; I may say the largest and best class of pullets I ever met. Brown Red Bantams—Cocks, only 5; rather an easy class to judge. First, quite a good kind of bird; about the worst fault in him a little too dark in color. Second, quite a stylish bird, but not clean enough in color or breast lacing. Third, looking as if he had seen his best days in a show room, and would not doubt he has been a pretty good bird once in his life. Hens, 5; first, an easy win; looks like a pullet I placed first in Hamilton two years ago. Second, a very good hen, not so long in leg or neck. Third, not so good in color, and much looser in feathers. Cockerels, 5; first, just a little better in style than the second; looked like two brothers; they both would be better if color were more on the bright lemon order. Third, too light in ground color of breast. Pullets—First, an easy winner; carried a nice, long, clear neck, and nice and straight in legs, and a very good colored pullet. Second, quite a neat one, but not so good in color as first. Third, another very good pullet. Duckwings—Cocks, 5; first, an easy win, both in color and style. Second, a very good bird if first had been away. Third, rather a nice bird, but not so good in Duckwing color as first and second. I noticed one cock in this class that, bar his color, looked an easy first, but age is telling on him, for he has moulted so mean in color that he can hardly be recognized in a show like the Ontario. Hens, 3; first, small in body and very clean in color. Second and third, too large or loose in body. Cockerels, 8; first and second cockerels quite easy winners. Third, a very good bird. Fourth, rather a good bird. This class was better than we generally find in Duckwing cockerels. Pullets—First and second like the two cockerels, easy winners. Third, pretty close up. Pyles—The class of Pyles shown at the Ontario, I am sure, was the best class I ever saw, for quantity and quality. First, cock was a grand game cock in miniature, nice, clean neck, wing shoulders very prominent, neat head, and he looked as if he were trying, in neck, shoulders, and wing, as if he had had Belgian canaries in his training coop. He certainly was a gem to stand in position. Second, a grand folding bird, all shut up, both in wing and tail; rather nice in shoulder butts, but was longer in body and not so short in feather. Third, another good bird, but not so well tucked up as first and second. Fourth, a grand colored bird, but looser in feather. Fifth and sixth, both good birds; in fact, I could almost say this

class were all good birds excepting two. Hens, 11; first and second, two gems; almost the same remarks would do as first cock; would not be surprised to learn they were full brothers and sisters. Third, a good, all-round hen. Fourth, another good one. Fifth, another good hen, and I may say of this class they were all good ones, and condition and behavior when judging would make serious changes in the awards. Cockerels, 17; first, second, third and fourth, I should think were sons of first cock. They all looked as if they had been trained in the same coop, for, though one excelled in color, when it came down to show-room behavior, they were all there. Fifth, a good cockerel, but needs training and behavior. Lots of good ones did not get placed. Pullets, 18; first, second and third, just about like first cock, and four winning cockerels. Prizes just about awarded to excellence of color, for in makeup, style and behavior, were all about one can almost hope to see Fourth, another good one, and lots more good ones in this class, and, to the Game Bantam breeders so much depends on training and behavior in a show pen that it is time well spent educating and getting the birds to show themselves to the best advantage. Birds just brought into a show-room from their runs have not much chance to beat birds who have learned the manner of standing and behavior in a show pen. When in England I was at one of the most prominent winner's in that country, and to see the work that's done there would surprise a great many old exhibitors in this or any other country. I do not want anyone to think that a poorly-formed bird can be made a good one by training, but when birds are good ones they can be made much more attractive in a show pen by teaching them how to behave, especially so when judging is going on. A. O. V. Game Bantams—Cocks, 3; first, an easy winner, both for color and requirements. Second, rather a good bird. Third, seems to have gone by. Hens—First, an easy win. Second, a good one, but larger and looser in body than the first. Third, a fairly good hen. Cockerels—First, quite a good bird; easy winner. Second and third, not much to choose. Pullets—First, quite a grand pullet, both in color and station. Second, rather a good one also. Third and fourth, also very good birds.

Golden Sebright Bantams—First, cock quite fine in lacing, and if ground color were a little more on the yellow order it would improve him. Second, better in ground color, but not so good in lacing. Hens—First, nice in color, and quite a good hen. Second, close up; two good ones. Cockerels—Just about the same language will fit for them. Pullets—First pullet very correct in ground color. Second, well laced, but not so even in lacing. The winning birds are good. Silver Sebrights—First cock and second cock, not much choice for first place; just condition alone could easily make them change places. Hens—First, a grand shaped, small hen, and if lacing were as perfect on breast as on wing she would take an extraordinarily good bird to beat her. Second, about perfect in lacing, if it were narrower; a little larger in size than first hen, and I do not think any fault would have been found had I put her first. Cockerels—First rather a good one, and so was the second; not much choice between them. Pullets—First, about the only thing she was awarded first over the second was for her very fine lacing. Third, cockered and pullet too heavy in lacing. Rose Comb—First cock very small, and in real grand show shape. Second, the best colored bird in class, but not looking nearly so well as he did when I placed him first in Toronto last fall. Third, not so nice in ear lobe, and a little longer on leg. Fourth, another very good bird. This was a good class in males. Hens—First hen very short on leg, nice in color, and well defined ear lobe. Second, another very small one; looked like a twin sister to first hen. Third hen looked

larger, and if she had been smaller, it would not have been far astray which of the three got first. Cockerels—First an easy win, only about two faults—one a little longer on leg than required, the other the tail not being as large as one would wish. Second and third, both good birds, but want more age to be at their best. Pullets—Same description would do for them as for the hens. In this whole class it would cost quite a lot of money to beat the winners, if one had to buy them.

White Cochins—First cock a model for all Cochin Bantam breeders to try to imitate, a grand white bird, and fit to win about anywhere; very perfect in every section. Second, another good one, but not so finely drawn in Cochin lines. Third, another good bird. Hens—First hen an easy win, much of the same stamp as first cock; second hen grand in color, but a little too long in back. Third hen, another good one. First cockerel an easy win. Second, quite a good one. Third, a very fair bird. Pullets—First a peach, and in grand show order. Second, another good one, and should the winning White Cochins go to New York and Boston, it would not surprise me for them to win as much there as they did at the Ontario. Buff Cochin Bantams—First cock not much to find fault with, only he looked larger than the other Buff Cochin Bantam cocks. Second, a much smaller bird, but lacked length of body feather to the first. Third, a very good bird, but not even enough in color. Hens—First hen an easy win for color and shape; would be hard to improve upon. Second hen, another grand colored hen. Third, another good hen, and very close up to preceding hens. Cockerels—First, a fine little cockerel, very even in color and small in size. Second, not as good in condition as he was when I placed him first at London last fall. I may be wrong, but he resembles the bird very much which I placed first at London last fall. Third, another very good specimen. Pullets—First, one of the sweetest colored Buffs I ever saw; from the top of her head to the end of her tail one ever rich Buff; looked as if she was covered with silk velvet instead of feathers; no shafts of fathers in sight. I awarded her the special for best colored Buff in the show. Second pullet, another grand pullet, as was the third, and I must say great improvements in Buff Cochin Bantams have been made this last few years. Black Cochin—First cock quite a Cochin in shape. Second, great in color and in grand show shape, but too long in body and too straight in back; had he been the shape of first cock, an easy win. Third, a very good colored bird, but, like the second, lacks in shape. Now, regarding males in Black Cochin Bantams, the change made in the standard to disqualify for white in neck hackle has made the classes much slimmer. Say two years ago, you could find not one well-shaped Black Cochin male, but four or five just as well-shaped Bantam males as I think were ever produced in any variety, not excepting the first white cock at the Ontario, and it will be quite a while before we see Black Cochin Bantam males as good in shape as formerly, and I am not sure whether the hidden defect warranted the disqualification. Hens—First quite a nice Cochin in shape and style. Second, another good hen. Third, another good one. Cockerels, first an easy win. Second and third following closely up. Pullets—First, quite a promising pullet. Second and third, very creditable. Partridge Cochin Bantams—First cock quite a well shaped bird, and much resembled a good Partridge cock both in color and style. Second, larger, not so Cochiny, but very good in color. Third, pretty good shape, but weak in striping on neck hackle and saddle. Hens—First, second and third are all well shaped birds, and prizes awarded for the best pencilling. Cockerels—First and second, easy winners. First, a well-shaped fellow. Second, larger, but grand in hackle striping. Pullets—First almost as well

pencilled as the big Cochins. Second, not quite as good in pencilling. This class was a decided improvement on former years.

Black-tailed Japanese—First, cock in grand show shape, with an abundance of tail. Second, a little smaller in size, but lacked length of tail. Hens—First hen just a model in shape; not so good in tail or wing color as the second, but closer to the ground, a requirement much desired in the Japanese Bantams. Second, hen better in color than first, but lacks the style. Third hen another very good one. Cockerels—First and second, both very promising birds, and same can be said of the two winning pullets. In the other color class some grand solid black and solid whites won. They should not be shown together, and I understand will not be next show. The Booted made a big class, and the winners good stuff, too.

By J. E. Bennett, Toronto.

Barred Plymouth Rocks—Cocks, 24, the largest class ever at the Ontario show, and some very fine birds. First cock, a grand bird all round, well barred, and good shape and color; 2nd, not so good in shape or condition, but a real good bird, and one barred to the skin; 3rd, another good bird, large and good shape, wins well. The rest of the class good, but nothing extra; some of them very weak in under color. Hens, 33; the 1st hen a real good one; would like to have her a little lighter, and legs better color, but she had the best barring, and is very close in barring, and each bar went straight across the feather, something hard to get; 2nd hen, another good hen; a very tight run between her and 3rd; all three real good hens, and hard to beat anywhere. 4th, 5th, 6th, and 7th hens were worthy of a first prize in any show. 7th hen was very fine in barring, but was very nearly black in the dark bars; the other two, very fine hens, but nineteen were too fat to show well; hens are none the better for being fed up like that. Cockerels, 37; the 1st, was something extra, and was one of the best I ever saw at the Ontario; his color and barring something grand; he might have been a little better in shape; 2nd, another real good one, ran the 1st very tightly, but was not quite as good in under color; 3rd, the same, look like two brothers; 4th, nicely shaped bird; good, even-colored bird all through, and the same from head to tail; 5th, large bird, and good shape, but coarser in barring; 6th, very nicely barred bird, and good color, but would like to have seen him larger; 7th, looks very much the same, as if they were brothers. Pullets, 42: 1st and 2nd pullets, two of the best pullets that have been shown for years; very clean in color, no brown tinge whatever, and splendid barring; a very tight run, but 1st was a little older, which made her the better in shape; 3rd, another real good one, and fine and large, fit to win almost anywhere; 4th, another good pullet, but not in it with the first three. The rest of the class were nothing very extra, good pullets, that would win in lots of shows where the competition was not so hot, but, I think, taking the barred Rock Class all through, that it was the best we have ever had. White Plymouth Rocks—Cocks, 12: 1st cock, a good Rock shape, and a white bird all through; wins well; 2nd, a very nice bird, not so large as the 1st, but a real good bird, and white; 3rd and 4th, good birds, but not quite so good in color. Hens, 17; 1st hen, like 1st cock, wins easily; she is a very large hen, good shape, and white all through; 2nd, a very fine hen, and was shown well; 3rd and 4th, very fine hens, and there were three or four more real good hens, but tickets did not go any further. Cockerels, 19; 1st, a very dandy, well-shaped comb, and as white

as a lily ; a long way ahead in his class ; 2nd, a very nice bird, not so clean in color, but good shape ; poor in comb ; 3rd, a good, large bird, and ran 2nd very close, was off in back color a little ; same with 4th, but they were four good cockerels, and a hard lot to beat. Pullets, 23 ; the 1st, another fine pullet, in the same pen as 1st cockerel, and they were a very hard pair to beat ; 2nd, a good pullet ; good shape, large, with good, yellow legs, and beak ; 3rd, 4th, and 5th, all good pullets, and any one of them is worthy a good prize. Buff Plymouth Rocks—Cocks, 8 ; 1st, the best I ever saw ; he was a grand color, in very fine condition, and wins well ; 2nd, a nicely-colored bird, but hardly ready ; 3rd, a fair one. Hens, 11 ; 1st, a really good hen, a good buff, and wins well ; 2nd, a large hen, not so even in color ; 3rd, a very nice hen, and it would be hard to get three better hens together. Cockerels, 10 ; 1st cockerel, like 1st cock, a real dandy ; 2nd, nearly as good, but not quite as good in breast color or in shape ; 3rd, quite a bit younger, but will make a good bird. Pullets, 9 ; 1st, a fine, large pullet, good rich buff all through, one of the best I ever saw ; 2nd, another really good one, but not so large ; 3rd, not even in color, but I think the winners in the Buff Rock class the best I have ever seen shown

By L. G. Jarvis, Montreal.

I must congratulate the management on the great success of this show, the largest and best in the history of the Ontario Association. The management was all that could be desired, and exhibitors and visitors, as well as judges, could not help but be pleased with the treatment they received at this the greatest poultry show on the continent.

Ducks. The finest collection ever brought together at a show in Canada, and nearly all deserved prizes or special mention. Aylesburys—1st drake, very long in body, with fine bill, pure white, and broad and long ; 2nd, a good one, not as white in bill or in plumage ; the same might be said of the 3rd. 1st and 2nd ducks extra fine, great size, and well-developed bodies, with deep keels, pure white beaks ; 1st won over 2nd in size only ; 3rd, not as white in plumage. Young—1st drake, won over 2nd and 3rd in color of plumage. Rouens—1st and 2nd drakes close ; 1st wins in color of bill and depth of claret in breast color ; 1st duck, fine in plumage, with fine shaped body and very fine pencilling ; 2nd, a good one. Young—1st and 2nd drakes close, both extra fine birds, 1st winning in general shape. Ducks—1st wins in color and shape of beak, and deeper in body, yet 2nd and 3rd both good. Pekin—An extra fine lot, and the competition close. After the tickets were placed there were several deserving of mention. Cayugas—I never say a finer lot of Cayugas at any show. I felt like giving more prizes after placing the awards. I never met with such richness in color of plumage, with black bills and legs. Competition keen in both old and young, taking considerable time in passing judgment. Some very nice Muscovies and Indian Runners shown. I would like to see a class for each of these varieties.

Buff Wyandottes—A very fair class ; 1st and 2nd cocks close, both good birds, and won easily ; 1st hen, grand shape, a little weak in surface color, but even, with good under color, a very large bird. Chicks : 1st cockerel a very nice one, with nice, mellow buff, might be better in tail color ; fair comb ; a little long in back ; 2nd, hardly as rich in color, not as good in comb ; 1st and 2nd pullets close, both nice, mellow buff.

Dorkings—Good birds in all varieties, especially in silver and white. Hens and pullets, in silver, extra fine, and competition close ; winner free

from any brickiness in wing, and very silvery in color of plumage ; 1st and 2nd hens in the colored variety close ; 1st a little larger and longer in back. The males in silver a little heavy in striping of saddles and hackle, and coarse in combs, yet a very fair lot. I was pleased to see the whites with smaller combs and whiter in plumage than we have seen for years. Winners all good.

Orpingtons—One of the finest classes in show. I am pleased to hear that there will be two classes another year. It is certainly the correct thing to do, as among the blacks can be seen as good specimens as among the buff, and the color of both will find admirers. 1st cock, a good, all round bird, just a little faulty in some parts in color of plumage ; 2nd, very nice shape, but not as good as 1st in color. 1st hen a grand one, a black, great size and Orpington shape, an easy winner ; 1st cockerel, a bit stilty, but not fully developed, a good golden buff ; 2nd, not as good in color of wing or as full in breast shape ; 3rd, the nicest shaped Orpington in class, loses in under color ; 1st and 2nd pullets close, both rich in color of plumage, and fair in shape. I believe we will see this variety as popular as the Rock or Wyandotte, owing to their size and color of skin. They will suit the English market better than the Rocks, and we have to cater to this market, so we may look for a boom in Orpingtons, as the trade is increasing every year in that direction.

Polish—A very fine display in all varieties. In the silver and golden laced I found a great improvement in the lacing, very few of the specimens showing any spangling or anything approaching those half-moon tips.

Leghorns, White—I discovered an error I made, after placing the awards, where, owing to darkness, I did not notice artificial coloring of legs. I had not turned in my book, so corrected my mistake. I should not have judged so late or in the light I did, only I was pushed to do so, but I said if I continued judging, I would look over the class in better light to see if any error had been made. The specimens referred to did not need the extra attention paid their shanks. They could have been placed among the best, and saved the annoyance and unpleasantness that occurred. Winners in this class might be considered good. 1st and 2nd cock, 1st and 2nd pullets, 1st, 2nd and 3rd cockerels very fine specimens. The trouble with several entries was the size of combs, Minorca in shape, and roughness of lobes in old birds, otherwise good specimens. Brown rose combs an improvement over last year, particularly in shap of comb, small, and not so much of the Wyandotte type, following the shape of head. A few of the males lacked striping in saddle, and though striped fairly well in neck, the striping did not follow the full length of feather, as we like to see it. I am glad to see this variety improving from year to year, as we now find as good color and style among this class as in the single comb variety. Blacks really a fine lot. 1st hen, 1st very fine specimens, both as to color of plumage and symmetry as style of cockerel, and 1st pullet, extra fine birds, hard to get better. Those not re fine class, and competition very close, like the rose comb brown, we can see birds. We have got them up on leg, and now can see as much style as in ceiving prizes could have won in previous shows. Rose comb white, another their rivals, the single comb.

Houdans—A grand lot. We missed Mr. Trew, of Lindsay, this year, with a big string of this variety of fowl. Yet, take the class, it might be considered up to the average. The winners were even in mottling, and both colors very distinct, the black not running into the white, as we so often see. La Fleche and Creve Coeur very good, but a small entry ; some of the birds shown as fine as I ever saw at any show.

By T. H. Smelt.

The White Wyandotte class, one of the largest in the show, brought out a grand lot. 1st cock, a typical Wyandotte, good breast, nice back, and good, broad saddle, splendid color ; 2nd, lacks in shape to 1st, but is a grand bird ; 3rd, close up. Hens : 1st, fine in color, and a good Wyandotte in shape ; 2nd and 3rd, close up to 1st. The hot section in this class was the cockerels, I think by far the best lot ever shown at the Ontario ; they were really a grand lot, and competition was keen for the tickets. 1st cockerel, a magnificent bird, a Wyandotte all over, grand head points and fine in color ; he also won the special for the best bird in the American class, also several other specials, which he well deserved. 2nd, 3rd, and 4th cockerels are also good enough to win in hot company. Pullets also first-class, all the winners of the right type and fine in color. Goldens a strong class ; 1st cock, a good color, nice hackle and saddle, good breast and grand shape ; 2nd, not so good in color, and lacks in shape of back and breast to 1st ; 3rd, not as good in shape, but the best colored male in the class. Many of the males shown were far too dark, especially in color of saddle, in some cases approaching maroon color instead of golden. Hens : 1st, 2nd, and 3rd were really fine, probably the best three hens that have won the tickets at the Ontario show. Cockerels : A fine lot ; 1st, a grand bird, good color and shape, lacks a little in shape of breast ; 2nd and 3rd, good colored ones, not much choice for places. Pullets : 1st, not so well developed as 2nd and 3rd, but a true Wyandotte, and for color very hard to beat, nicely laced, and carries the same shade of color all over. Other winners good enough to win in hot company. Silvers had a good lot, but no improvement over last year's exhibit in point of quality. Our breeders of Silvers seem to lose sight of the true Wyandotte type ; nearly every entry is a different type, which is not as it should be. We want the color, but we also want the Wyandotte. Blacks, a small class, winners of good quality.

Minorcas—By far the best lot ever shown here. 1st cock, a grand Minorca all over, good color and fine carriage ; 2nd, a grand color, fine head points, lacks in breast shape ; 3rd, not so good in color, but a good one. Cockerels : 1st, a typical Minorca, good size, splendid carriage, grand head, fine color ; I think the best one I ever put a prize on. This cockerel won special for best male in Mediterranean class. 2nd and 3rd, grand birds, but not nearly so stylish. Pullets : True Minorcas : 1st, 2nd, and 3rd, hard to beat anywhere. Whites : A good class, some extra good ones in type and color.

Andalusians—A grand lot ; 1st cock a winner in almost any company, good size, fine color, and the correct shape ; 2nd, a grand one, not in as good show shape ; 3rd, a nice one. Hens : 1st hen, a good shaped one, and good color, in good show trim ; 2nd and 3rd, good shaped hens and grand color, a little out of condition. Cockerels : 1st and 2nd, extra fine, grand style and color ; 2nd, perhaps the most stylish in the lot, but younger than 1st ; 3rd, a good color, but lacks in style.

Spanish—Show no improvement in quality ; winners fair.

Red Caps—A few good ones. Breeders in this class seem to be neglecting the size, the majority being too narrow and too high in leg.

Dominiques—A decided improvement ; winners in all sections really fine.

Javas—Also good, winners having the correct Java type ; altogether a better class for quality than last year.

Hamburgs—As usual at this show, hard to beat on this continent ; competition very keen for the red tickets.

Sultans—Class not large, but good quality.

Silkies—Made, perhaps, the best exhibit ever shown here ; not a poor one in the lot, and close competition for places.

Any other variety—A few good ones, prizes mostly going to Partridge Wyandottes of good quality ; females nicely pencilled and of good shape ; males also good in type.

Cross-breds brought out a good entry, prizes going to a cross of Indian Game and Plymouth Rocks.

Turkeys.

By James Anderson, Guelph.

There was the largest display of turkeys this year we have ever seen at Guelph, some ninety-two entries, and the quality superior to former years. In the class two years and over there were five very fine specimens of cock birds shown, all large, heavy birds, and the plumage excellent. The first prize bird was a well-shaped, beautifully-marked one, and showed the true type of the Bronze turkey ; in fact, they were all fine specimens of the breed. In hens, the 2nd prize bird was the heaviest in the show, must have weighed twenty-four pounds, but the markings were not so good, the tail feathers being too dark. The 1st prize bird was not so heavy, was a lengthier bird, and was better marked. The 3rd was also a very fine one, but was a shade dark in the tail feathers also. The whole five were good birds, and in fine condition. The next class, one year and under two, was the most difficult class to judge in the whole exhibit, eight of the finest cock birds I have ever seen of the age, all fine, large, well marked, and fine, heavy bone, and clean, well-colored legs. The 1st prize bird had the finest plumage I ever saw on a turkey ; he fairly shone like burnished gold, and was a perfect Bronze turkey. The 2nd was very little behind him, and the whole eight of them were a credit to the breeders, and were fit to head any man's flock. There were seven hens in this class, the 1st one being a beautifully marked specimen, and very large for her age. The others were all good birds, and, as I said before, were a very hard class to judge, being all fine specimens of the breed. In the class of cockerels and pullets there were thirteen entries of the former and eleven of the latter. The 1st prize bird was a really good one. He must have weighed twenty-six pounds or more, not too long in the legs as some of the others were, fine, heavy bone, and well proportioned and well marked ; the plumage was very fine. The 2nd was very little behind him, and showed the true markings of the Bronze turkey. The others were fine birds, but some of them rather long in the legs in our opinion. In pullets, the 1st was, like the cockerels, a well-proportioned, beautifully-marked bird, showing good, heavy bone, and rather low set bird. The others were good, serviceable pullets, and will be heard of in the future as prize winners, I have no doubt. In the white or black class there were in old birds four entries of cocks and four hens, all good birds, and beautiful, clean plumage. The 1st prize cock was a very large bird, pure white, and was almost as heavy a specimen as in the Bronze class. I never saw a finer white Holland turkey. The class of hens was very good, the 2nd prize bird being extra fine of plumage ; the 1st heavier, and of very good symmetry. There was not a poor specimen in this class. The cockerels and pullets were of fine, clean, pure white plumage, and equally good. In the A.O.V. class

we had a mixture of breeds, the Slate, Narragansett, the Buff. The 1st prize old cock was a beauty, a fine, large, well-proportioned bird. The Standard gives the weights of the cocks twenty-seven pounds, but this one must have gone over thirty pounds considerably. He had a fine, deep body, broad, and full breast, and was a very handsome bird. The 2nd prize cock was of the Narragansett breed, a beautifully-marked bird. The Standard weight of these is given at thirty-two pounds, and this one was up to that, I have no doubt, but had not the style of the other bird. The markings of these birds was pretty, metallic black and white beautifully intermingled. There were some good specimens of Buff turkeys shown. Twenty-seven pounds is the Standard weight of the aged cock bird, and eighteen pounds of the hen They are a very symmetrical bird, and I have no doubt are hardy, but as I have never had them can I say very little about it. I had in some instances great difficulty in getting the birds out of the pens to examine them thoroughly, and found after I had given my decisions one 3rd prize bird had a crooked breast. Whoever judges turkeys in future should have a man to assist him in getting the birds out of the coops, as it is impossible to judge them, especially when in pairs in the coops, as a great many were this year. If a large crate of some kind were supplied to put the birds into to compare them, more satisfaction could be given, as at present it is often mere guesswork when in the coops.

Dressed Poultry.

By F. C. Hare, Ottawa.

The specimens of dressed poultry, ducks, geese, and turkeys that were exhibited at the Winter Fair, Guelph, were far ahead of any that have been exhibited in Canada before. In each of the different classes there were some magnificent fowls. In some of the more popular breeds of chickens, water fowl, and turkeys, the competition was very keen, and the number of entries large.

In the classes of chickens the Plymouth Rocks headed the list with the large showing of eighty-five specimens; these were all Barred Rocks, with the exception of two pairs of White Rocks. The quality of the Barred Rocks as a whole was very much in advance of last year. The size and weight of the specimens had been reduced, the breast bone had been lowered, and the breast meat increased, and as a consequence, the chickens presented a very marked appearance. The first-prize pair of cockerels were Barred Rocks of medium size, very plump in breast, and of white flesh color; they weighed 12½ pounds. The second pair were White Rock, of which one cockerel was a very plump; broad, and low-breasted bird, but the other was a little too high in breast.

The first-prize pullets were Barred Rocks, and were the champion chickens of the show, winning the sweepstake for the best pair on exhibit. They were so plump and round that they appeared to be solid meat. Their flesh was a very white color, and they weighed 12 pounds. The second pair of pullets were two smaller Barred pullets, weighing 9¼ pounds. They were not quite so plump on breast, and lost through this deficiency.

In the collections of Rocks or Wyandottes, the first prize went to six medium size, plump breasted Barred Rock pullets, very equal in quality and type. The second collection was six large Barred cockerels, somewhat spurry on account of age, rather high on breast, and hence not as attractive as the winning collection. Messrs. Armstrong Bros., of Fergus, Ontario, won

the majority of prizes on dressed Plymouth Rocks, and are to be congratulated on the high quality of the birds they exhibited.

There were twenty birds shown in the Wyandotte class. They were inferior in quality to the Barred Plymouth Rocks on exhibit. The winning cockerels and pullets were White Wyandottes of medium size, and fair in plumpness of breast. There was a noticeable lack of care in plucking of the Wyandottes in comparison to the perfect dressing of the Plymouth Rocks.

In the class for Houdans, LaFleche, Creve Coeurs, or Orpingtons, the Houdans won all the first premiums. They were very well fatted, with splendid long, plump breasts, and making an attractive appearance on the table. The few Orpingtons that were on exhibition had no special quality.

In Games, Messrs. G. & J. Bogue won all prizes with a grand strain of Indians. They all had the Indian Game plumpness and wonderful fullness in the front of the breast. I noticed that the specimens that were shown were also not long on leg, which is a desirable quality.

The Leghorn classes were evenly divided between the Whites, Browns, and Buffs, the Whites, however, winning the majority of the prizes. The chickens had not been crate-fattened, and presented an ordinary appearance in comparison with the specially fatted heavier varieties. Mr. Wm. McNeill's collection of Hamburgs was very neatly dressed for exhibition, and showed considerable fullness in breast. In competition with the Leghorns for the best collection the award was given to the six Hamburgs.

In Cochins a large pair of Buffs, rather yellow in color of flesh and high on breast, were first. As the pair was placed on their backs on the table, with the heavy feather legs in the air, they presented quite a comical appearance.

In Brahmas the first prize went to a medium size pair of lights, white in flesh color and of good quality. Some of the exhibitors in these breeds, Cochins and Brahmas, did not recognize the fact that high breast and large size were objectionable features of dressed chickens. Plumpness of breast must be given first consideration in all breeds of chickens.

In the Minorca or Andalusian classes all the prizes were awarded to Mr. J. H. Minshall's Minorcas.

There was a very large entry in ducks, and the quality of superior merit. In white ducks some very well fatted Pekins won the prizes for pairs as well as the collection. In colored ducks a magnificently fatted pair of Cayuga ducks were placed first; they were very round, full on the breast, and almost perfect in market type. In competition for the best pair of ducks on exhibition they won the sweepstake, and later on at the end of the show were sold by auction for the high price of $4.25, and were shipped to Montreal. I was impressed with the medium size and splendid type of Cayuga ducks on exhibition. From the appearance of the birds shown I should judge that the Cayuga would be a most desirable type of market duck. I learn that they are also heavy egg-producers, and should prove valuable as breeding ducks.

The collection of geese was a very uniform one in quality, the colored geese winning over the whites for the sweepstake, and also in the collection. The sweepstake pair brought at the sale $4.25.

There was a great improvement in the quality of the turkeys exhibited this year over last. This improvement was mainly in the lowering of the breast, and in its greater plumpness. Turkeys with very prominent breast bones, or with a high point at the front of the breast, do not present a good market appearance, or are not as satisfactory for carving as are the lower breasted specimens. The best pair in the collection was the pair of old

turkey females; they were easy winners of the sweepstake prize through the wonderful plumpness of their breasts, and the fullness, quality and whiteness of their flesh. In the old males the first prize pair of turkeys were of splendid quality, and weighed fifty pounds. Young males weighed thirty-nine pounds. The collection prize was awarded to six very fine young turkey males. Messrs. Woodrow & Sons won the majority of the turkey prizes.

In the prizes for eggs, Black Minorca eggs won the first and second in white, and Barred Plymouth Rock eggs the first and second in brown.

On Friday afternoon, at 2 o'clock, in the judging ring of the Fair, there was considerable amusement taken from a plucking competition, as well as valuable information secured with reference to the work of plucking. There were three entries in the professional. Each competitor was supplied with four Barred Rock cockerels, and it was a wonderful sight of feathers when the five men began to pluck. Mr. Jas. Harriday, in the professional class, finished first in ten minutes; Mr. R. T. Tomalin was second, in eleven and a half minutes, and Mr. J. Tomalin, third. Mr. R. N. Crane, of Guelph, was first in the non-professional class in fifteen minutes, and Mr. L. H. Woodrow was second. During the plucking of the chickens, which was under the direction of Mr. Graham, of the Agricultural College, and Mr. Hare, of the Dominion Department of Agriculture, talks were given about the plucking of chickens, the shaping of them for market, and other matters pertaining to the killing and marketing of chickens.

As soon as the plucking competition was finished, the auction sale of poultry commenced. Very high prices were realized for all the stock, and universal satisfaction was given to the exhibitors.

LIST OF PRIZE WINNERS AT WINTER FAIR.

CATTLE.

SHORTHORNS.

Steer, 1 year and under 2. Four entries.

1. Jas. McQueen, Elora, Minto; sire, Valasco 30, 30861; dam, Lally Blythwood, 18239.
2. J. Fried & Son, Roseville, Stamp; sire, Kinellal Stamp; dam, Victoria of Roseville, 21760.

Steer, under 1 year. Eight entries.

1. Jos. Kirby, Armstrong Mills, King Billy; sire, King William, 29550; dam, Tris 2nd.
2. John Brown, Galt, Duke; sire, Duke 2nd, 36166; dam, Fannie.
3. Leslie & Pearen, Acton, Erin Statesman; sire, Royal Statesman, 29142; Dam, Maud, 36434.
4. J. Fried & Son, Roseville, Bob; sire, Kinellal Stamp; dam, Countess, 30694.

Cow or Heifer, 3 years and over. Seven entries.

1. John Hill, Wellesley, Queen Mollie; sire, Scotsman 2nd, 25146; dam, Kirklevington Duchess 8th.
2. E. Brien & Sons, Ridgetown, Minaleta, 4580; sire, Royal Senator, 21246; dam, Red Ribbon, 10484.
3. S. W. Squire, Owen Sound, Sylvicola, Vol. XIV; sire, Janniton, 21385; dam, Princess Duty, 16912.
4. A. B. Baxter, Hamilton, Beauty, 35051; sire, Mountain Hero, 20954; dam, Viaian, 28144.

Heifer, 2 years and under 3. Two entries.

1. J. Fried & Son, Roseville, Roan Queen; sire, Kinellal Stamp; dam, Beatrice, 32055.
2. E. Brien & Son, Ridgetown, Easter Lily, 44047; sire, Earl of Howard, 29986; dam, Duchess of Kent 8th, 26490.

Heifer under 2 years. One entry.

1. Leslie & Pearen, Acton, May Queen; sire, Royal Statesman; dam, May Queen 2nd, 26524.

Best Shorthorn Steer. Nine entries.

1. Jas. McQueen, Elora, Minto.

Best Cow or Heifer. Five entries.

1. Jas. Fried & Son, Roan Queen.

HEREFORD OR POLLED ANGUS.

Steer or Heifer, 2 years and under 3.

1. J. D. McGregor, Guelph, Marguerite 2nd of Brandon, 42262; sire, Lord Aberdeen 3rd, 20824; dam, Emily of Mullin, 16726.
2. Jas. Bowman, Guelph, Elm Park Kyma 10th; sire, Emelyn of W. G.; dam, Kyma 4th, 24534.

Steer or Heifer, 1 year and under 2. Three entries.

1. Jas. Bowman, Guelph, Elm Park Mayflower, 45948; sire, Kyma Heir, 24835; dam, Kyma of Tweed Hill, 17606.
2. F. W. Stone Stock Co., Guelph, Sweetheart 34th, 121507; sire, Baronette, 100989; dam, Sweetheart 33rd, 100988.
3. Jas. Bowman, Guelph, Elm Park Kyma 11th, 45957; sire, Oxford King, 24359; dam, Kyma 3rd, 19809.

Steer or Heifer under 1 year. Four entries.

1. F. W. Stone Stock Co., Guelph, Sweet Bar; Sire Baronette; dam, Sweetheart 33rd.
2. Jas. Bowman, Guelph, Elm Park Pelle 4th, 54035.
3. F. W. Stone Stock Co., Guelph, Hazel Bar; Sire, Baronette; dam, Hazel Duchess 8th, 95237.
4. Jas. Bowman, Guelph, Elm Park Pelle 5th, 54037.

Cow or Heifer 3 years or over. Three entries.

1. Jas. Bowman, Guelph, Heather Belle, 22610; sire, Advocate of Hillhurst, 17601; dam, Bonnie Belle, 4129
2. Stone Stock Co., Guelph, Duchess of Moreton 22nd, sire, Barbett, 68977; dam, Duchess of Moreton 14th, 58638.
3. Jas. Bowman, Guelph, Elm Park Mayflower, 27224; sire, Lord Aberdeen 2nd, 19810; dam, Kyma of Tweedhill, 17606.

GALLOWAYS OR DEVONS.

Steer or Heifer, 2 years and under 3. Four entries.

1. Shaw & Marston, Brantford, Belle B. 2nd, 16890; sire, College Gambler, 12008; dam, Belle B. of High Park, 11738.
2. W. J. Rudd, Eden Mills, Bounce; sire, Indian Chief, 1036; dam, Lady, 1020.
3. D. McCrae, Guelph, Grizzel 2nd, 16452; sire, Queen's Messenger 2nd, 1061; dam, Grizzel 4th, 14418.
4. D. McCrae, Guelph, Nelly 12th, 16460.

Steer or Heifer, 1 year and under 2.

1. W. J. Rudd, Eden Mills, Jack, sire, Hero R., 1049; dam, Ella. 1128.
2. D. McCrae, Guelph, Jean 2nd, 16910; sire, Lord William, 7108; dam, Jean 8th, 15293.

Steer or Heifer, under 1 year. Three entries.

1. D. McCrae, Guelph, Fairy Rose, 20560; sire, Fashoda, 14390; dam, Black Rose 2nd, 12118.
2. W. J. Rudd, Eden Mills, Ringer, sire, Conqueror, 1053; dam, Thrilby, 1085.
3. D. McCrae, Guelph, Maid of Mist, 21054; sire, Cedric 4th, 6468; dam, Maid Marjorie, 13977.

Cow or Heifer, 3 years or over. Four entries.

1. Shaw & Marston, Brantford, Flora McEwen 2nd, 15040; sire, McCartney, 9739; dam, Flora McEwen, 5735.
2. D. McCrae, Guelph, Adela of Guelph; sire, The Cob, 4167; dam, Adela 3rd, 9576.
3. W. J. Rudd, Eden Mills, College Ida, 1144; sire, Tom, 1031; dam, Eva 2nd, 1039.

GRADE OR CROSS.

Steer, 2 years and under 3. Five entries.

1. Jas. Leask, Greenbank, Bobs, sire, Royal Banner, 27652.
2. A. Hales, Guelph, Jumbo, David Sarsley, 26426.
3. J. Fried & Son, Roseville, Dumpling; sire, Kinellal Stamp.
4. Jas. Green, Fergus, Duke; sire, Roan Duke, 29458.
5. E. Brien & Son, Ridgetown, Saxon; sire, Earl of Howard, 29986.

Steer 1 year and under 2. Nine Entries.

1. N. H. Black, Rockwood, Little Jim; sire, Imperial, 29175.
2. N. H. Black, Rockwood, Prince; sire, Imperial, 29175.
3. J. Fried & Sons, Roseville, King of Roseville; sire, Kinellal Stamp.
4. D. Stewart, Everton, Pat Stanley; 27764.
5. C. Scott, Arkell.

Steer under 1 year. Six entries.

1. Duncan Stewart, Everton, Captain; sire, Royal McGregor, 29026.
2. Jas. Leask, Greenbank, Spotted Knight; sire, Knight Errant, 34309.
3. Duncan Stewart, Everton, Stanley; sire, Stanley, 27764.
4. Jas. Leask, Greenbank, Champion Knight; sire, Knight Errant, 34309.
5. Jno. Brown, Galt, Botha; sire, Hillsburg Lad.

Cow or Heifer, 3 years or over. Two entries.

1. John Brown, Galt, Sussan; sire, Captain Watt, 35348.
2. Archie Stewart, Ailsa Craig, Daisy; sire, Prince of Thistle, 24865.

Heifer, 2 years and under 3. Four entries.

1. Jas. Leask, Greenbank, Sunflower ; sire, Royal Banner, 27652.
2. D. Stewart, Everton, Lady Stanley ; sire, Stanley, 27764.
3. J. Fried & Son, Roseville, Jinny ; sire, Kinellal Stamp ;
4. Jas. Green, Fergus, Duchess ; sire, Fergus Chief, 28403.

Heifer, under 2 years. Seven entries.

1. Jas. Leask, Greenbank, White Lillie ; sire, Royal Banner, 27652.
2. John Brown, Galt.
3. Robt. Young, Ospringe, Erin Beauty.
4. D. Stewart, Everton, Pet ; sire, Stanley, 27764.

Dressed Carcasses, *pure bred. Five entries.*

1. E. Brien & Son, Ridgetown. 2. W. J. Rudd, Eden Mills. 3. John Brown, Galt.

Grade or Cross. Seven entries.

1. John Brown, Galt. 2. Wm. Wolfe, Hespeler. 3. G. B. Hood, Guelph.

Best Dressed Carcass. Eight entries.

1. John Brown, Galt.

Grade Steer, sired by Aberdeen. Angus Bull.

1. John Brown, Galt. 2. A. Hales, Guelph.

Grade Steer, fed in the County of Wellington. Eleven entries.

1. N. H. Black, Rockwood.

Grade Steer, sired by Shorthorn Bull.

1. Jas. Leask, Greenbank, Pobs. 3. N. H. Black, Rockwood, Prince.
2. N. H. Black, Rockwood, Little Jim.

Best Three Export Steers. Four entries.

1. G. B. Hood, Guelph. 3. M. Wolfe, Hespeler.
2. John Brown, Galt. 4. Wm. Aitchison, Guelph.

Best Pair of Fat Animals. Twelve entries.

1. Jas. Leask, Greenbank.

Name.	Owner.	Lbs. milk.	Per cent. fat.	Lbs. fat.	Lbs. solids not fat.	Points for day's milk.	Points for fat.	Points for solids not fat.	Total points.	Remarks.
Class 42, Section 1—Shorthorn cow, 36 months and over.										
Bonnie Doon	L. D. Currie, Hillsburg	120.5375	3.45	4.1614	11.0305	..	83.228	44.122	127.413	1st
Indian Rose 25005	Jos. Brown, Norval	116.375	3.3	3.8390	10.2922	..	76.78	41.1688	117.9488	2nd
Irish Jug 36816	A. W. Smith, Maple Lodge	100.375	3.15	3.1589	9.1848	3.2	63.178	36.7392	102.770	3rd
Winno	H. C. Graham, Ailsa Craig.	74.125	4.3	3.1874	7.0327	..	63.748	28.1308	91.8788	4th
Gray Blanche 33217	A. W. Smith, Maple Lodge	77.5625	3.5	2.7128	6.9196	..	54.256	27.6784	81.9344	5th
Class 42, Section 2—Shorthorn cow, under 36 months.										
Royal Eva 40463	Jas. Leask, Greenbank	53.125	3.85	2.0487	4.7685	.6	40.974	19.074	60.648	1st
Class 43, Section 1—Ayrshire cow, 36 months and over.										
Sarah 2nd 13192	H. & J. McKee, Norwich	109.6875	4.2	4.6056	10.6924	..	92.112	42.7696	134.8816	1st
Annette 2493	W. M. Smith, Scotland	95.625	4.05	3.8743	9.5278	3.2	77.486	38.1112	118.7972	2nd
White Rose 13199	H. & J. McKee, Norwich	90.3125	4.55	4.1128	8.6455	..	82.256	34.582	116.838	3rd
Minnie Clyde	J. G. Clark, Ottawa	98.5625	3.75	3.6966	9.3384	.5	73.932	37.3536	111.7856	4th
Annie Laurie of Brookside 3339	H. & J. McKee, Norwich	113.5625	3.05	3.4631	10.2630	..	69.262	41.052	110.314	5th
Class 43, Section 2—Ayrshire heifer, under 36 months.										
Addington Queen	J. G. Clark, Ottawa	66.8125	3.9	2.6056	6.5075	4.1	52.112	26.03	82.242	1st
Scotland Jean 13388	W. M. Smith, Scotland	62.1875	4.1	2.5495	6.3197	3.6	50.99	25.2788	79.8688	2nd
Jubilee of Hickory Hill	N. Dyment, Clappison	48.25	4.4	2.1275	4.5533	9.9	42.55	18.2132	70.6632	3rd
Class 44, Section 1—Holstein cow, 36 months or over.										
Ianthe Jewel Mechthilde	Jas. Rettie, Norwich	121.50	3.8	4.5029	10.7829	..	90.058	43.1316	133.1896	1st
Lady Wayne Norine 53608	Geo. Rice, Currie's Crossing	116.05	3.5	4.0613	10.2257	3.5	81.226	40.9028	125.6288	2nd
Madonna Clothilde 47980	" "	118.5625	3.3	3.9098	10.0592	2.3	78.196	40.2368	120.7328	3rd
Dewdrop's Clothilde 1641	" "	117.125	3.	3.5077	9.9540	..	70.154	39.816	109.970	4th
Flora G.	C. R. Gies, Heidelberg	118.	2.95	3 4800	9.7063	..	69.6	38.8252	108.4252	5th
Woodland Iosco 39399	Geo. Rice, Currie's Crossing	100.625	2.85	2.8678	8.9683	..	57.356	35.8732	93.2292	6th
Class 44, Section 2—Holstein cow, under 36 months.										
Olive Schuling	Jas. Rettie, Norwich	87.8125	3.45	3.0284	8.1226	7.2	60.568	32.4904	100.2584	1st
Lady Wyne Norine Mechthilde 54612	Geo. Rice, Currie's Crossing	78.25	3.3	2.5822	7.0230	3.4	51.644	28.092	83.136	2nd
Oceolo Queen 53318	" "	79.875	3.3	2.6346	7.1094	.4	52.692	28.4376	81.5296	3rd
Canary's Starlight 57908	" "	61.25	3.9	2.3885	9.25	..	47.77	23.1232	70 8932	4th
Maid of Fairmont	C. R. Gies, Hillsburg	76.1875	2.9	2.2083	6.0380	..	44.166	24.152	68.318	5th
Class 47, Section 1—Grade cow, 36 months or over.										
Pearl	P. D. Ede, Oxford Centre	127.3125	3.95	5.0221	11.7356	2.3	100.4420	46.9424	149.6844	1st
Jewel	" "	56.5575	3.7	2.0981	5.1948	..	41.962	20.7792	62.7412	2nd
Utopia	A. McDougall, Guelph	36.375	4.9	1.7825	3.5211	10.	35.6460	14.0844	59.7304	3rd
Class 47, Section 2—Grade cow, under 36 months.										
Ruby	P. D. Ede, Oxford Centre	93.625	3.75	3.5112	8.8344	..	70.2240	35.3376	105.5616	1st
Mary	A. McDougall, Guelph	65.062	5.45	2.9278	6.5468	1.4	58.5560	26.1872	86.1432	2nd
Violet	" "	73.875	3.8	2.8072	6.9783	..	56.1440	27.9132	84.0572	3rd
Peggy	W. M. Smith, Scotland	56.00	4.05	2.2688	5.4992	2.4	45.3760	21.9968	69.7728	4th

SHEEP.

COTSWOLD.

Ewe, under 1 year. Sixteen entries.

1. J. C. Ross, Jarvis, Glanworth Lass, 27177 ; sire, Sarner 8, 16088 ; dam, Glanworth Lass, 17679.
2. John Rawlings, Ravenswood, Rawlings 690 ; sire, Rawlings 571, 25143 ; dam, Ficht 178, 19571.
3. Hugh McNelly, Arkell, No. 27154.

Wethers, 1 year and under 2. Seven entries.

1. E. O'Brien & Sons, Ridgetown, Chappy ; sire, Joe ; dam, Lady Blanche 12.
2. John Rawlings, Ravenswood, Rawlings 581 ; sire, Trump 16181 ; dam, Ficht 144, 19524.
3. John Rawlings, Ravenswood, Milnes 37 ; sire, Allen 27, 18938 ; dam, Milne 2, 15264.

Wether, under 1 year. Ten entries.

1. John Rawlings, Ravenswood, Rawlings 660 ; sire, Trump 16181 ; dam, Rawlings 366, 15305.
2. J. C. Ross, Jarvis, Jarvis Lad ; sire, Gaines 26 ; dam, Ross ewe 18920.
3. John Rawlings, Ravenswood, Rawlings 686 ; sire, Trump 16181 ; dam, Rawlings 367, 15306.

Three Wethers, under 1 year. Three entries.

1. John Rawlings, Ravenswood, Rawlings 660, 686, 688.

Three Ewes, under 1 year. Eight entries.

1. J. C. Ross, Jarvis. 2. John Rawlings, Ravenswood. 3. H. McNelly, Arkell.

Dressed Carcass—Cotswold Wether—1 year and under 2. Six entries.

1. John Rawlings, Ravenswood, Milnes, 37. 2. E. Brien & Sons, Ridgetown.

LINCOLNS.

Ewe, under 1 year. Six entries.

1. J. T. Gibson, Denfield, Gibson 153 ; sire, Royal Duke 5067 ; dam, Deans 180, 9311.
2. J. T. Gibson, Denfield, Gibson 158 ; sire, Royal Duke ; dam, G. & W. 83, 3336.
3. J. T. Gibson, Denfield, Gibson 160 ; sire, Royal Duke ; dam, G. & W. 76, 3333.

Wether, 1 year and under 2. Two entries.

1. J. T. Gibson, Denfield, Gibson 78 ; sire, Deans 8, 9299 ; dam, No. 5, 327.
2. J. T. Gibson, Denfield, Gibson 79 ; sire, Deans 8, 9299 ; dam, No. 5, 327.

Wether, under 1 year. Six entries.

1. J. T. Gibson, Denfield, Gibsons 176 ; sire, Deans 9, 9300 ; dam, Sade E, 3010.
2. J. T. Gibson, Denfield, Gibson 177 ; sire, Deans 9, 9300 ; dam, Sade E, 3010.
3. J. T. Gibson, Denfield, Gibson 178 ; sire, Deans 9, 9300 ; dam, Lady S, 3907.

Three Wethers, under 1 year. Two entries.

1. J. T. Gibson, Denfield, Denfield. 2. J. T. Gibson, Denfield, Denfield.

Three Ewes, under 1 year. Two entries.

1. J. T. Gibson, Denfield. 2. J. T. Gibson, Denfield.

Dressed Carcass—Lincoln Wether, 1 year and under 2. Two entries.

1. J. T. Gibson, Denfield. 2. J. T. Gibson, Denfield.

Dressed Carcass—Lincoln Wether, under 1 year. One entry.

1. J. T. Gibson, Denfield.

LEICESTERS.

Ewe, under 1 year. Fourteen entries.

1. Chas. Maw, Omagh, May Maw ; sire, Jumbo W., 4001 ; dam, Grace Darling, 5405.
2. A. & W. Whitelaw, Guelph, Jenny Berry 2nd, 5734 ; sire, Albino, 4077 ; dam, Jenny Berry, 2754.
3. A. & W. Whitelaw, Guelph, Jenny Berry 3rd, 5735 ; sire, Albino, 4077 ; dam, Jenny Berry, 2754.
4. Chas. Maw, Omagh, Omagh Girl ; sire, Jumbo W., 4001 ; dam, Grace Darling, 5405.
5. Orr & Lillico, Galt, Flirt, 6059 ; sire, Salem Boy, 1793 ; dam, Sarah, 2962.

Wether, 1 year and under 2. Five entries.

1. Orr & Lillico, Galt, Charlie, 5228 ; sire, Sam ; dam, Bess O.
2. Hastings Bros., Crosshill, Prizewinner, 5844.
3. Hastings Bros, Crosshill, Lucky Charlie Ross.

Wether, under 1 year. Five entries.

1. Orr & Lillico, Galt, Jack, 6054 ; sire, Roberts ; 4885 ; dam, Pearl, 3652.
2. Orr & Lillico, Galt, Tom, 6053 ; sire, Roberts, 4885 ; dam, Pearl, 3652.
3. Orr & Lillico, Galt, Fred, 6056 ; sire, Klondike, 2572 ; dam, Martha, 3134.
4. Hastings Bros, Crosshill.
5. A. & W. Whitelaw, Guelph, Sambo of Guelph, 6018 ; sire, Albino ; dam, Soussie Lassie, 3140

Three Wethers, under 1 year. Three entries.

1. Orr & Lillico, Galt. 2. Orr & Lillico, Galt. 3. Hastings Bros., Crosshill.

Three Ewes, under 2 years. Seven entries.

1. Chas. Maw, Omagh.
2. A. and W. Whitelaw, Guelph, Lilly of Guelph.
3. John Knox, Clanbrassil.
4. Orr & Lillico, Galt.
5. John McCorkindale, Guelph, Guelph Bess; sire, Clova; dam, Libbie of Guelph.

Dressed Carcass—Leicester Wether—1 year and under 2. Three entries.

1. Hastings Bros. Crosshill, Lucky Charlie Ross. 2. Hastings Bros., Crosshill.

Dressed Carcass—Leicester Wether—under 1 year.

1. Orr & Lillico, Galt. 2. Hastings Bros., Crosshill, Royal Charley.

OXFORDS.

Ewe, under 1 year. Thirteen entries.

1. J. W. Lee & Son, Simcoe; Helbon Pink, 27548; sire, Lanley's Brant King; dam Helbon Pink 2nd, 21827.
2. J. W. Lee & Son, Simcoe, Helbon Sweet Bramble 2nd; sire, Langley's Brant King; dam, Helbon Sweet Briar, 19308.
3. Smith Evans, Gourock, Evans 467; sire, Adderbury Clansman, 21701; dam, Evans. 271, 13775.
4. Smith Evans, Gourock, Evans 458; sire, Adderbury Clansman, 21701; dam, Evans 389, 21949.
5. K. Finlayson, Campbellton, Finlayson 120: sire, Arkell's 1451; dam, Finlayson's 69.

Wether, 1 year and under 2. Five entries.

1. J. H. Jull, Burford, Brant Boy 223; sire, Brant's King Langley, 17512; dam, Sylvan Lady, 7622.
2. J. H. Jull, Burford, Brant Boy 220; sire, Brant's King Langley, 17512; dam, Brant Queen, 18439.
3. S. Evans, Gourock, Evans 432; sire, Evans 357, 18403; dam, Sadie 14th of Gourock, 8881.
4. And. Elliott, Galt, Pond Mill's Jim; sire, Brant Chief 263, 20786; dam, Mag 2nd of Pond Mill's, 10,390.

Wether, under 1 year.

1. S. Evans, Gourock; Evans, 214; sire, Evans 357, 18403; dam 367, 19131.
2. S. Evans, Gourock; Evans, 405; sire, Evans 357, 18403; dam Belle Mapleton 118, 12448.
3. S. Evans, Gourock; Evans, 402; sire, Evans 357, 18403; dam, Belle Mapleton 118, 12448.
4. K. Finlayson, Campbellton; Finlayson Dick; sire, Arkell, 1451; dam, Jenny Lind, 16227.
5. Andrew Elliott, Pond Mills; Pond Mills Bill; sire, Jack 2nd 12605; dam, Pond Mills 15th, 14699.

Three Oxford Wethers under 1 year. Three entries.

1. S. Evans, Gourock. 2. Andrew Elliott, Pond Mills. 3. K. Finlayson, Campbellton.

Three Oxford Ewes under 1 year. Four entries.

1. J. W. Lee & Son, Simcoe. 3. K. Finlayson, Campbellton.
2. S. Evans, Gourock. 4. J. H. Jull, Burford.

Dress Carcass—Oxford Wether. 1 year and under 2. Four entries.

1. S. Evans, Gourock. 3. J. H. Jull, Burford.
2. Andrew Elliott, Pond Mills; Pond Mills Jim.

Dressed Carcass—Oxford Wether, under 1 year. Five entries.

1. S. Evans, Gourock. 2. K. Finlayson, Campbellton. 3. S. Evans, Gourock.

SHROPSHIRES.

Ewe under 1 year. Ten entries.

1. John Campbell, Woodville; Campbell's 1130, 175747.
2. John Campbell, Woodville; Campbell's 1134, 175748.
3. R. Gibson, Delaware; Gibson 780, 179360; sire, Allen's Star, 114800; dam, Beattie's 436, 69413.
4. R. Gibson, Delaware, Gibson 781, 179361; Sire, Allen's Star, 114800.
5. John Campbell, Woodville, Campbell's 1137, 176405.

Wether, 1 year and under 2. Six entries.

1. R. Gibson, Delaware, Gibson's 695, 165592; sire, Julius Caesar, 128421; dam, Gibson's 430, 95984.
2. John Campbell, Woodville, Valiant, 163952.
3. R. Gibson, Delaware, Gibson's 710, 165596; sire, Jupiter, 128416; dam, Gibson's 417, 95977.
4. John Campbell, Woodville, Hopeful 2nd, 164590.
5. W. E. Wright, Glanworth, Wright's 435, 178531; sire, MacFarlane's 532, 148354; dam, Bertha 4, 74061.

Wether under 1 year.

1. R. Gibson, Delaware, Model 3rd, 176474; sire, Jupiter, 128416; dam, Gibson's 535, 113059.
2. John Campbell, Woodville, No. 2, 180141.
3. John Campbell, Woodville, No. 3, 180142.
4. W. E. Wright, Glanworth, Wright's 425, 178518; sire, MacFarlane's 603, 163403; dam, Wright's 352, 144084.

Three Wethers, under 1 year. Four entries.

1. R. Gibson, Delaware.
2. John Campbell, Woodville.
3. W. E. Wright, Glanworth, Wright's 425, 429, 441.
4. A. Rudell, Hespeler.

Three ewes under 1 year.

1. John Campbell, Woodville.
2. R. Gibson, Delaware.
3. W. H. Beattie, Wilton Grove, Beattie's 761, 836, 837.
4. A. Rudell, Hespeler.
5. Jas. Hamill & Son, Harwich, 18030, 180029, 180027.

Dressed Carcass—Shropshire Wether—1 year and under 2. Four entries.

1. John Campbell, Woodville.
2. R. Gibson, Delaware.
3. W. E. Wright, Glanworth.
4. W. H. Beattie, Wilton Grove, Beattie's 845.

Dressed Carcass—Shropshire Wether—under 1 year. Seven entries.

1. A. Rudell, Hespeler, Rudell's 255.
2. W. E. Wright, Glanworth.
3. R. Gibson, Delaware.
4. W. E. Wright, Glanworth.
5. A. Rudell, Hespeler.

SOUTHDOWNS.

Ewe, under 1 year. Twelve entries.

1. Telfer Bros., Paris, Telfer Ewe 117, 16380; sire, Chichester King, 12875; dam, Telfer ewe 65, 10868.
2. John Jackson & Son, Abingdon, Jackson Ewe 22 C.; sire, B. Yorker, 14783; dam, Jackson 95 A.
3. T. C. Douglas, Galt, Douglas Ewe 150, 16237; sire, Lord Roberts, 13823; dam, Douglas 129, 13768.
4. Wm. Martin, Binbrook, Martin Ewe 70 A., 16313; sire, Jackson 4, 10246; dam, Martin 90, 11658.
5. Telfer Bros., Paris, Telfer Ewe 118, 16399; sire, Chichester King, 12875; dam, Elliott Ewe 5, 9706.

Wether, 1 year and under 2. Eight entries.

1. Telfer Bros., Paris, Telfer Wether, 15092; sire, Chichester King, 12875; dam, Currie, 10323.
2. John Jackson, Abingdon, Jackson 90; sire, Easton Lad, 12096; dam, Jackson 92 A., 8369.
3. T. C. Douglas, Galt, XI., 15067; sire, Hobgen's Galt, 14034; dam, Douglas, 100, 11587.
4. Telfer Bros., Paris, Telfer Wether 2, 15093; sire, Chichester King, 12875; dam, Telfer Ewe, 30, 5740.

Wether, under 1 year. Ten entries.

1. Telfer Bros., Paris, Telfer Wether 7; dam, Telfer Ewe 51.
2. Telfer Bros., Paris, Telfer Wether 8; dam, Telfer Ewe 42.
3. T. C. Douglas, Galt, D. 2; sire, Lord Roberts; dam, Allie 4, 5967.
4. John Jackson & Son, Abingdon, Jackson; sire, B. Yorker; dam, Jackson, 108 B.
5. Telfer Bros., Paris, Telfer Wether 9; dam, Telfer Ewe 62.

Three Wethers, under 1 year. Five entries.

1. Telfer Bros., Paris.
2. T. C. Douglas, Galt.
3. Telfer Bros., Paris.
4. John Jackson & Son, Abingdon.

Three Ewes, under 1 year. Five entries.

1. Telfer Bros., Paris.
2. T. C. Douglas, Galt.
3. John Jackson & Son, Abingdon.
4. Wm. Martin, Binbrook.

Dressed Carcass—Southdown Wether—1 year and under 2. Five entries.

1. T. C. Douglas, Galt.
2. W. Martin, Binbrook, Martin Wether.
3. John Jackson & Son, Abingdon.
4. Wm. Martin, Binbrook, Martin Wether.

Dressed Carcass—Southdown Wether—under 1 year. Five entries.

1. John Jackson & Sons, Abingdon, Jackson.
2. Telfer Bros., Paris.
3. Wm. Martin, Binbrook; Martin Wether, 11.
4. T. C. Douglas, Galt.
5. Wm. Martin, Binbrook.

DORSET HORNS AND MERINOS.

Ewe, under 1 year. Five entries.

1. R. H. Harding, Thorndale, Harding 190; sire, Tranquility 978, 1406; dam, Charlotte 329.
2. John Hunter, Wyoming, Hunters 35; sire, Rob Roy, 1260; dam, Hunters 20, 2264.
3. R. H. Harding, Thorndale, Hardings 191; sire, Tranquility 978; dam, Charlotte 329.
4. R. H. Harding, Thorndale, Tranquility, 1136; sire, Tranquility, 895; dam, London Rose, 1793.

Wether, 1 year and under 2. Three entries.

1. John Hunter, Wyoming, Pat; sire, Rob Roy, 1260; dam, Annie Laurie, 727.
2. R. H. Harding, Thorndale, Dennis; sire, Beaconsfield, 786; dam, Harding 74, 314.
3. John Hunter, Wyoming, Barnie; sire, Bowman's 741; dam, Maid Marion, 1263.

Wether, under 1 year. Four entries.

1. R. H. Harding, Thorndale, Jumbo; sire, Tranquility, 1406; dam, Harding's 127, 1037.
2. R. H. Harding, Thorndale, Longshanks; sire, Tranquility, 1406; dam, Harding's 138, 1158.
3. John Hunter, Wyoming, Dick; sire, Rob Roy, 1260; dam, Hunter's 22, 2266.
4. John Hunter, Wyoming, Bob; sire, Rob Roy, 1260; dam, Hunter's 20, 2264.

Dressed Carcass Wether, 1 year and under 2. Three entries.

1. John Hunter, Wyoming, Pat.
2. R. H. Harding, Thorndale, Dennis.
3. John Hunter, Wyoming, Barnie.

Dressed Carcass Wether, under 1 year. Three entries.

1. John Hunter, Wyoming, Bob.
2. R. H. Harding, Thorndale, Long Shanks.
3. John Hunter, Wyoming, Dick,

HAMPSHIRE OR SUFFOLK.

Ewe, under 1 year. One entry.

1. Telfer Bros., Paris, Telfer Ewe 10, 8831; sire, Highclere 14, 2924; dam, Telfer, No. 3, 7172.

Wether, 1 year and under 2. Three entries

1. Jas. Bowman, Guelph, J. Bowman 33; sire, 253; dam, 442.
2. Jas. Bowman, Guelph, W. R. Bowman, 36; sire, Abel, 237; dam, 240.
3. Jas. Bowman, Guelph, Bowman 42; sire, Abel, 237; dam, 523.

Wether, under 1 year Five entries.

1. John Kelly, Shakespeare, 3556.
2. Telfer Bros., Paris, Telfer Wether; sire, Highclere, 14, 2924; dam. Telfer Ewe 6, 7175.
3. Jas. Bowman, Guelph, J. Bowman's 36; sire, W. R. Bowman's 253; dam, 515.
4. Jas. Bowman, Guelph, J. Bowman's 68; sire, Abel, 237; dam, 363.
5. Jas. Bowman, Guelph; sire, 363; dam, 360.

Dressed Carcass Wether, 1 year and under 2. Three entries.

1. Jas. Bowman, Guelph.
2. Jas. Bowman, Guelph.
3. Jas. Bowman, Guelph.

Dressed Carcass Wether, under 1 year. Four entries.

2. Jas. Bowman, Guelph.
3. Jas. Bowman, Guelph.

REGISTERED SHROPSHIRES.

Wether, 1 year and under 2. Six entries.

1. R. Gibson, Delaware.
2. John Campbell, Woodville.
3. R. Gibson, Delaware.

Wether, under 1 year. Eleven entries.

1. R. Gibson, Delaware, Mario.
2. John Campbell, Woodville.
3. John Campbell, Woodville.

Three Wether Lambs. Four entries.

1. R. Gibson, Delaware.
2. John Campbell, Woodville.
3. W. E. Wright, Glanworth.
4. A. Rudell, Hespeler.

GRADE SHROPSHIRES.

Wether, 1 year old. Six entries.

1. John Campbell, Woodville, Best Type.
2. John Campbell, Woodville.
3. R. Gibson, Delaware.

Wether Lamb. Nine entries.

1. A. Rudell, Hespeler, 268.
2. A. Rudell, Hespeler, 264.
3. A. Rudell, Hespeler, 267.

Three Leicester Ewe Lambs. Six entries.

1. Chas. Maw, Omagh.
2. John Knox, Clanbrassil.
3. John McCorkindale, Guelph.
4. Hastings Bros., Crosshill.

Southdown Ewe, under 1 year. Twelve entries.

1. Telfer Bros., Paris.
2. John Jackson, Abingdon.
3. T. C. Douglas, Galt.

Three Southdown Ewes, under 1 year. Five entries.

1. Telfer Bros., Paris.
2. T. C. Douglas, Galt.
3. John Jackson & Son, Abingdon.

Three Southdown Ewe Lambs, under 1 year, get of one ram bred by exhibitor. Four entries.

1. Telfer Bros., Paris.
2. T. C. Douglas, Galt.
3. John Jackson, Abingdon.

Southdown Wether, 1 year and under 2. Seven entries.

1. Telfer Bros., Paris.
2. John Jackson & Son, Abingdon.
3. T. C. Douglas, Galt.

Southdown Wether, under 1 year. Ten entries.

1. Telfer Bros., Paris.
2. Telfer Bros., Paris.
3. T. C. Douglas, Galt.

Three Southdown Wethers, under 1 year. Five entries.

1. Telfer Bros., Paris.
2. T. C. Douglas, Galt.
3. Telfer Bros., Paris.

Oxford Yearling Wether. Four entries.

1. J. H. Jull, Burford.
2. J. H. Jull, Burford.

Oxford Lamb, Wether. Five entries.

2. S. Evans, Gourock. 1. S. Evans, Gourock.

Oxford Ewe Lamb. Eleven entries.

1. J. W. Lee & Sons, Simcoe. 2. J. W. Lee & Sons, Simcoe.

Three Oxford Wether Lambs. Three entries.

1. S. Evans, Gourock. 2. And. Elliott, Pond Mills.

Three Oxford Ewe Lambs. Four entries

1. J. W. Lee & Sons, Simcoe. 2. S. Evans, Gourock.

Oxford Yearling Wether Carcass. Three entries.

1. S. Evans, Gourock.

Oxford Wether Lamb Carcass. Four entries.

1. S. Evans, Gourock.

Grade or Cross Ewe, 1 year and under 2. Eight entries.

1. John Campbell, Woodville. 3. T. C. Douglas, Galt.
2. Hastings Bros., Crosshill. 4. F. Vickery, Prince Albert.

Grade or Cross Wether, 1 year and under 2. Fourteen entries.

1. John Campbell, Woodville. 2. Orr & Lillico, Galt. 3. John Campbell, Woodville.

Three Grade or Cross Wethers, under 1 year.

1. Orr & Lillico, Galt. 2. A. Rudell, Hespeler. 3. John Campbell, Woodville.

Grade or Cross Wether, under 1 year. Nineteen entries.

1. Orr & Lillico, Galt. 2. Orr & Lillico, Galt. 3. A. Rudell, Hespeler.

Grade or Cross Ewe, under 1 year.

1. Hastings Bros., Crosshill. 3. John Campbell, Woodville.
2. John Campbell, Woodville. 4. John Campbell, Woodville.

Grade or Cross Ewe or Wether, under two years. Seven entries.

1. John Campbell, Woodville. 2. John Campbell, Woodville. 3. Hastings Bros., Crosshill.

Grade or Cross Wether, 1 year and under 2. Dressed Carcass. Six entries.

1. G. B. Armstrong, Teeswater. 2. E. Brien & Son, Ridgetown. 3. W. E. Wright, Glanworth.

Grade or Cross, Dressed Carcass, Wether, under 1 year. Eleven entries.

1. T. C. Douglas, Galt. 4. A. Rudell, Hespeler.
2. R. Gibson, Delaware. 5. A. Rudell, Hespeler.
3. A. Rudell, Hespeler.

SWINE.

BERKSHIRES.

Barrow, 6 months and under 9. Four entries.

1. Snell & Lyons, Snelgrove, Snelgrove Tom, sire, Crown Prince, 5888; dam, Lady Agar, 5419.
2. Wm. Wilson, Snelgrove, Bacon, sire, Longfellow 10th of H.F.; dam, Lady Hillick.
3. Snell & Lyons, Snelgrove, Snelgrove Tim, sire, Norval Hero, 5952; dam, Lovely, 6598.
4. Snell & Lyons, Snelgrove, Snelgrove Jack, sire, Norval Hero, 5952; dam, Lovely, 6598.

Barrow. Under six months. Five entries.

1. Snell & Lyons, Snelgrove, Snelgrove Sam, sire, Crown Prince, dam, Dorothy, 9418.
2. Snell & Lyons, Snelgrove, Snelgrove Dick, sire, Crown Prince, dam, Dorothy, 9418.
3. E. Brien & Son, Ridgetown, Rogers, sire, Fashion's Hero, 6294, dam, Beauty, 8283.
4. Snell & Lyons, Snelgrove, Snelgrove Bert, sire, Crown Prince, dam, Dorothy, 9418.

Sow, 9 months and under 15. Three entries.

1. Snell & Lyons, Snelgrove, Marie of Snelgrove, 10305; sire, Longfellow 10th of Hood Farm, 8633; dam, Lady Snelgrove, 6596.
2. Snell & Lyons, Snelgrove, Snelgrove Ruth, sire, Longfellow 10th of Hood Farm, 8633; dam, Lady Snelgrove, 6596.
3. S. Dolson, Alloa, Cherry Lane Blossom, sire, Longfellow 10th of Hood Farm, 8633; dam, Locust Blossom, 8483.

Sow, 6 months and under 9. Six entries.

1. E. Brien & Sons, Ridgetown, W. L. Minnie, sire, Longfellow 10th of Hood Farm, 8633; dam, Belle of Wilton, 5020.
2. Wm. Wilson, Snelgrove, Milton Lady, sire, Longfellow 10th of Hood Farm; dam, Belle of Milton.
3. Wm. Wilson, Snelgrove, W. L. Fanny, sire, Longfellow 10th of Hood Farm; dam, Belle of Milton.
4. John Kitching, Corwhin, Ladysmith, 10723, sire, Corrector, 8549; dam, Barbaree Girl, 7976.

Sow, under 6 months. Five entries.

1. Wm. Wilson, Snelgrove, W. L. Gossip, sire, Longfellow 10th of Hood Farm; dam, W. L. Maid.
2. Snell & Lyons, Snelgrove, Snelgrove Flower, 10794, Sire, Crown Prince, 5888; dam, Dorothy, 9418.
3. Snell & Lyons, Snelgrove, Snelgrove Maid, 10796, sire Crown Prince, 5888, dam, Dorothy, 9418.
4. Snell & Lyons, Snelgrove, Snelgrove Lass, 10795, sire Crown Prince 5888 dam, Dorothy, 9418.
5. E. Brien & Son, Ridgetown, Missie, sire, Fashion's Hero. dam, Beauty 8283.

3 Berkshire Pigs offspring of 1 Sow. Four entries.

1. Snell & Lyons, Snelgrove. 2. Snell & Lyons, Snelgrove. 3. W. Wilson, Snelgrove.

YORKSHIRES.

Barrow, 6 months and under 9. Six entries.

1. R. F. Duck & Son, Port Credit, ——— sire, Kitchener, 41518 dam Cecilia 4728.
2. Henry Dedells, Breslau, Jack, sire, Ruttington, 3665, dam, Pet, 8361.
3. Henry Dedells, Breslau, Tom, sire, Ruttington, 3665, dam, Pet, 8361.
4. J. E. Brethour, Burford, ——— sire, O. L. Royal Prince, 7652, dam O. L. White, 37, 10448.
5. J. Featherston & Son, Streetsville, Pine Grove Whitston, sire, Pine Monarch, 6412; dam, Whitston Maid, 5272.

Barrow under 6 months. Seven entries.

1. J. Featherston & Son, Streetsville, Pine Grove Bolt, sire, Whitston Star, 3679; dam, Nottingham Maid, 6417.
2. R. F. Duck & Son, Port Credit, ——— sire, Kitchener, 41518; dam. Bacon Lass, 6926.
3. H. Dedells, Breslau, Dandy, sire, Ruttington; dam, Breslau Girl, 7359.
4. H. Dedells, Breslau, King, sire, Ruttington; dam, Breslau Girl, 7359.
5. Samuel Young, Guelph, Jim, dam, Springside Maid, 9925.

Sow, 9 months and under 15. Six entries.

1. R. F. Duck & Son, Port Credit, Lakeview Princess, sire, Kitchener; dam, Bacon Lass.
2. J. Brethour, Burford, O. L. Countess 16, sire, O. L. Prince, 7652; dam, O. L. Countess 7, 7396.
3. J. Featherston & Son, Streetsville, Prince Grove Ida, 6, 10409, sire. Prince Monarch; dam, Ida, 5839.
4. J. Featherston & Son, Streetsville, Prince Grove Ida, 7, 10410.

Sow 6 months and under 9. Eleven entries.

1. R. F. Duck & Sons, Port Credit, Credit Lass, 10456, sire, Kitchener: dam, O. L. Cecelia.
2. J. E. Brethour, Burford, O. L. Mite, 38, 10449, sire, O. L. Royal Prince, 7652, dam, O. L. Mite 37, 10448.
3. J. E. Brethour, Burford, O. L. Mite 39, 10450, sire, O. L. Royal Prince, 7652, dam, O. L. Mite, 37, 10448.
4. J. Featherston & Son, Streetsville, Pine Grove Belle, 10408, Whiston Star, dam, Rufford Belle, 4683.

Sow, under 6 months. Ten entries.

1. J. Featherston & Sons, Streetsville.
2. J. Featherston & Sons, Streetsville.
3. J. E. Brethour, Burford, Oak Lodge Fame, 20, sire, O. L. Duke, 7659, dam, O. L. Fame, 19, 7401.
4. J. E. Brethour, Burford, Oak Lodge Fame 21, sire, O. L. Duke, 7659, dam, O. L. Fame 19, 7401.

3 Yorkshire pigs, offspring of 1 sow, bred by Exhibitor. Seven entries.

1. R. F. Duck & Son, Port Credit. 2. J. E. Brethour, Burford. 3. S. Young, Guelph.

CHESTER WHITES.

Barrow, 6 months and under 9. Three entries.

1. D. DeCourcy, Bornholm, Ned, sire, Conqueror, 2039, dam, Sylvesta, 925.
2. D. DeCourcy, Bornholm, Tom, sire, Conqueror, 2039, dam, Sylvesta, 925.
3. W. E. Wright, Glanworth, Jumbo, sire, Glanworth Prince, 1843, dam, Blossom, 1704.

Barrow, under six months. Three entries.

1. D. DeCourcy, Bornholm, Joe, sire, Conqueror; dam, Miss Buller, 1428.
2. D. DeCourcy, Bornholm, Jim, sire, Conqueror; dam, Miss Buller, 1428.
3. W. E. Wright, Glanworth, Sam, sire, Glanworth Prince; dam, Lady Minto, 2013.

Sow, 9 months and under 15. One entry.

1. D. DeCourcey, Bornholm, Susie 2nd, 2504; sire, Cronje, 1481; dam, Annie, 1699.

Sow, 6 months and under 9. Three entries.

1. W. E. Wright, Glanworth, Biddy, 2485; sire, Glanworth Prince, 1843; dam, Blossom, 1704.
2. D. DeCourcey, Bornholm, Perth Bunty, 2503; sire, Conqueror; dam, Sylvesta.
3. W. E. Wright, Glanworth, Fanny, 2486; sire, Glanworth Prince, 1843; dam, Blossom, 1704.

Sow, under 6 months. Two entries.

1. D. DeCourcey, Bornholm, Missie; sire, Conqueror; dam, Miss Buller.
2. W. E. Wright, Glanworth, Jessie; sire, Glanworth Prince; dam, Lady Minto.

3 pigs, offspring of 1 sow, bred by exhibitor. Two entries.

1. D. DeCourcey, Bornholm. 2. W. E. Wright, Glanworth.

Poland Chinas.

Barrow, 6 months and under 9. One entry.

1. W. M. Smith, Scotland, Dick; sire, Oxford Lad, 1475; dam, Bacon Queen, 1432.

Barrow, under 6 months. Two entries.

1. W. M. Smith, Scotland, Tom; sire, Oxford Lad, 1475; dam, Carry Ida, 1162.
2. W. M. Smith, Scotland, Harry; sire, Oxford Lad, 1475; dam, Carry Ida, 1162.

Sow, 9 months and under 15. Two entries.

1. W. M. Smith, Scotland, Scotland Ida, 1656; sire, Oxford Lad; dam, Carry Ida.
2. W. M. Smith, Scotland, Scotland Queen, 1657; sire, Oxford Lad; dam, Carry Ida.

Sow, 6 months and under 9. Three entries.

1. W. M. Smith, Scotland, Scotland Gem, 1655; sire, Oxford Lad; dam, Bacon Queen, 1432.
2. W. M. Smith, Scotland, Scotland Girl, 1704; sire, Oxford Lad; dam, Bacon Queen, 1432.
3. W. M. Smith, Scotland, Scotland Lassie, 1705; sire, Oxford Lad; dam, Bacon Queen, 1432.

Sow, under 6 months. Three entries.

1. W. M. Smith, Scotland, Cassie 1; sire, Oxford Lad; dam, Carry Ida, 1162.
2. W. M. Smith, Scotland, Cassie 2; sire, Oxford Lad; dam, Carry Ida, 1162.
3. W. M. Smith, Scotland, Cassie 3; sire, Oxford Lad; dam, Carry Ida, 1162.

3 pigs of 1 sow, bred by exhibitor. Two entries.

1. W. M. Smith, Scotland. 2. W. M. Smith, Scotland.

Essex.

Barrow, 6 months and under 9. Three entries.

1. T. A. McClure, Meadowvale, Black Bob; sire, Paardeberg, 45; dam, Black Rose, 42.
2. J. Featherston & Son, Streetsville, Pine Grove Topsman.
3. J. Featherston & Son, Streetsville, Pine Grove Topsman 2nd.

Barrow, under 5 months. Three entries.

1. J. Featherston & Son, Streetsville, Pine Grove Bluff.
2. J. Featherston & Son, Streetsville, Pine Grove Bluff 2nd.
3. T. A. McClure, Meadowvale, Black Bill; sire, Paardeberg, 45; dam, Tozy Maid, 38.

Sow, 9 months and under 15. Three entries.

1. J. Featherston & Son, Streetsville, Pine Grove Diamond.
2. T. A. McClure, Meadowvale, Maid of Honor, 79; sire, Paardeberg, 45; dam, Tozy Maid, 38.
3. J. Featherston & Son, Streetsville, Pine Grove Diamond 2nd.

Sow, 6 months and under 9. Three entries.

1. J. Featherston & Son, Streetsville, Pine Grove Joy.
2. J. Featherston & Son, Streetsville, Pine Grove Joy 2nd.
3. T. A. McClure, Meadowvale, Meadowvale Rose, 80; sire, Paardeberg; dam, Black Rose.

Sow, under 6 months Three entries.

1. J. Featherston & Son, Streetsville, Pine Grove Topsy.
2. T. A. McClure, Meadowvale, Dinah 3rd, 78; sire, Paardeberg; dam, Tozy Maid.

3 pigs offspring of 1 sow, bred by exhibitor. Two entries.

1. J. Featherston & Son, Streetsville. 2. J. Featherston & Son, Streetsville.

Tamworths.

Barrow, 6 months and under 9. Five entries.

1. D. Douglas & Son, Mitchell, Big Jack; sire, Newcastle Lord, 2429; dam, Glanworth Maid, 1494.
2. D. Douglas & Son, Mitchell, Bill; sire, Newcastle Lord, 2429; dam, Glanworth Maid, 1494.
3. Chas. Currie, Morriston, Royal Tom; sire, Duke of Morriston, 3945; dam, O.A.C. 343, 763.
4. Chas. Currie, Morriston, Royal George; sire, Duke of Morriston, 3945; dam, O.A.C. 343, 763.

Barrow, under 6 months. Six entries.

1. A. Elliott & Son, Galt, Englewood's Conqueror; sire, Sahib, 1310; dam, Dumfries B, 1454.
2. A. Elliott & Son, Galt, Englewood's Conqueror, 2nd; sire, Sahib, 1310; dam, Dumfries B, 1454.
3. D. Douglas & Son, Mitchell, Peter; sire, Oliver Twist, 2037; dam, Angelina, 3358.
4. D. Douglas & Son, Mitchell, Sandy; sire, Oliver Twist, 2037; dam, Angelina, 2358.
5. Chas. Currie, Morriston, Prince Henry; sire, Duke of Morriston; dam, O.A.C., 343.

Sow, nine months and under 15. Five entries.

1. D. Douglas & Son, Mitchell, Alice, 3060; sire, Defiance, 902; dam, Glanworth Maid, 1444.
2. D. Douglas & Son, Mitchell, Elsia, 3062; sire, Defiance, 902; dam, Glanworth Maid, 1444.
3. A. Elliott & Son, Galt, Englewood's Glen, 3054; sire, Sahib, 1310; dam, Gem, 1486.
4. Chas. Currie, Morriston, Freelton Lass; sire, Duke of Morriston; dam, O.A.C., 343.
5. Chas. Currie, Morriston, Aberfoyle Lass; sire, Duke of Morriston; dam, O.A.C., 343.

Sow, six months and under 9. Ten entries.

1. A Elliott & Son, Galt, Englewood's Pink, 3056; sire, Slasher; dam, Ruberta.
2. D. Douglas & Son, Mitchell, Dina, 3061; sire, Newcastle Lord; dam, Lady Amhurst, 2334.
3. Chas. Currie, Morriston, Scottish Lassie; sire, Duke of Morriston; dam, O.A.C., 343.
4. Chas. Currie, Morriston, Highland Lassie; sire, Duke of Morriston; dam, O. A. C. 343.

Sow, under 6 months. Six entries.

1. A. Elliott & Son, Galt, Belle's Beauty, 3053; sire, Sahib; dam, Dumfries Belle.
2. A. Elliott & Son, Galt, Englewood's Pink, 3rd, 3057; sire, Sahib; dam, Dumfries Belle.
3. D. Douglas & Son, Mitchell, Flo, 3063; sire, Oliver Twist; dam, Angelina.
4. D. Douglas & Son, Mitchell, Susie, 3066; sire, Oliver Twist; dam, Angelina.
5. C. Currie, Morriston, Crieff Lassie, sire, Duke of Morriston.

3 pigs, offspring of 1 sow, bred by exhibitor. Four entries.

1. D. Douglas & Son, Mitchell. 2. A. Elliott & Son, Galt.

Duroc Jerseys.

Barrow, 6 months and under 9. Four entries.

1. W. N. Tape, Bentpath, Edward, sire, Kipling, 334; dam, Genevieve 2nd, 416.
2. W. N. Tape, Bentpath, Joseph; sire, Kipling 334; dam, Genevieve 2nd, 416.
3. W. M. Smith, Scotland, Jack; sire, Duke Brant 2nd, 249; dam, Scotland Lass, 468.

Barrow, under 6 months. Five entries

1. W. M. Smith, Scotland, Jim; sire, Duke Brant 2nd, 249; dam, Victoria Supreme, 427.
2. W. N. Tape, Bentpath, Sandy; sire, Lord Milton, 339; dam, Maid of Lambton, 494.
3. W. N. Tape, Bentpath, Angus; sire, Lord Milton, 339; dam, Maid of Lambton, 494.

Sow, 9 months and under 15. Five entries.

1. W. M. Smith, Scotland, Annie, 520; sire, Duke Brant 2nd: dam, Victoria Supreme.
2. W. M. Smith, Scotland, Bessie, 521; sire, Duke Brant 2nd; dam, Victoria Supreme.
2. W. N. Tape, Bentpath, Lottie; sire, Kipling, 334; dam, Genevieve, 416.
3. W. N. Tape, Bentpath, Frances; sire, Kipling, 334; dam, Genevieve, 416.
5. Jos Hamill & Son, Harwick.

Sow, 6 months and under 9. Four entries.

1. W. M. Smith, Scotland, Canadian Jennie, 547; sire, Duke Brant 2nd; dam, Scotland Lass.
2. W. N. Tape, Bentpath, Maggie Belle; sire, Kipling: dam, Genevieve.
3. W. N. Tape, Bentpath, Ethel; sire, Kipling; dam, Genevieve.

Sow, under 6 months. Six entries.

1. W. M. Smith, Scotland, Nancy, 545; sire, Duke Brant 2nd; dam, Victoria Supreme.
2. W. N Tape, Bentpath, Ida; sire, Lord Milton, 339; dam, Maid of Lambton, 494.
3. W. M. Smith, Scotland, Nancy 2nd, 546; sire, Duke Brant 2nd; dam, Victoria Supreme.
4. W. N. Tape, Bentpath, Hazel. Sire, Lord Milton, 339; dam, Maid of Lambton, 494.
5. Jos. Hamill & Son, Harwich.

3 Pigs and Offspring of 1 Sow, bred by exhibitor. Three entries.

1. W. M. Smith. Scotland. 2. W. N. Tape, Bentpath.

Grades and Crosses.

Barrow, 6 months and under 9. One entry.

1. A. Elliott & Son, Galt.

Barrow, under 6 months. Five entries.

1. Snell & Lyons, Snelgrove. 2. E. Brien & Son, Ridgetown. 3. C. Currie, Morriston.

Sow, 6 months and under 9. Five entries.

1. D. DeCourcey, Bornholm. 2. A. Elliott & Son, Galt. 3. Geo. Henderson, Guelph.

Sow, under 6 months. Four entries.

1. Snell & Lyons, Snelgrove. 2. E. Brien & Son, Ridgetown. 3. A. Elliott & Son, Galt.

Three Pure-bred Export Bacon Hogs. Twenty entries.

1. J. E. Brethour, Burford.
2. J. Featherston & Son, Streetsville.
3. G. B. Hood, Guelph.
4. R. F. Duck & Son.
5. A. Elliott & Son.
6. H. Dedells, Breslau.
7. Chas. Currie, Morriston.
8. A. C. Hallman, Breslau.
9. J. E. Brethour, Burford.
10. J. Featherston & Son, Streetsville.
11. G. B. Hood, Guelph.

Three Export Bacon Hogs, Grades or Crosses. Six entries.

1. T. A. McClure, Meadowvale.
2. A. Elliott & Son, Galt.
3. Jas. Rettie, Norwich.
4. J. R. Newell & Son, Crampton.
5. Snell & Lyons, Snelgrove.

Best Three Export Bacon Hogs, any breed. Nine entries.

1. J. E. Brethour, Burford.

Best Three Export Bacon Hogs, bred and fed in Wellington.

1. G. B. Hood, Guelph.

Three Dressed Carcasses Pure Breds. Seventeen entries.

1. J. E. Brethour, Burford.
2. C. Currie, Morriston.
3. J. E. Brethour, Burford.
4. J. Featherston & Son, Streetsville.
5. A. C. Hallman, Breslau.
6. W. Wilson, Snelgrove.
7. R. F. Duck & Son, Port Credit.
8. J. Featherston & Son, Streetsville.
9. E. Brien & Son, Ridgetown.
10. D. DeCourcey, Bornholm.
11. Jas. Gray, Rockwood.

Three Dressed Carcasses. Grades or Crosses. Six entries.

1. Jas. Rettie, Norwich.
2. A. Elliott & Son, Galt.
3. T. A. McClure, Meadowvale.
4. F. W. Stone Stock Company, Guelph.

Best Three Carcasses, any breed. Eleven entries.

1. J. E. Brethour, Burford.

Best pen of 4 Bacon Hogs, pure bred or crosses. Thirteen entries.

1. H. Dedells, Breslau.
2. R. F. Duck & Son, Port Credit.

POULTRY.

Brahmas, Light.

Cocks, 9.—1st and 2nd, Geo. A. Tossy ; 3rd, W. R. Walker ; 4th, J. J. Pickard.
Hens, 8.—1st and 2nd, Geo. A. Tossy ; 3rd, W. R. Walker ; 4th, J. J. Pickard.
Cockerels, 11.—1st, W. J. Thompson ; 2nd, Geo. A. Tossy ; 3rd, Hugh Wyatt ; 4th, John Cameron.
Pullets, 9.—1st, 2nd and 3rd, Geo. A. Tossy.

Brahmas, Dark.

Cocks, 7.—1st and 3rd, Garside & Sage ; 2nd, L. C. Sage ; 4th, C. A. R. Tilt ; 5th, G. A. Langlier.
Hens, 9.—1st and 3rd, L. C. Sage ; 2nd, G. A. Langlier ; 4th, Garside & Sage.
Cockerels, 7.—1st, 2nd and 3rd, Garside & Sage ; 4th, L. C. Sage.
Pullets, 6.—1st and 2nd, Garside & Sage ; 3rd, C. A. R. Tilt ; 4th, L. C. Sage.

Black Cochins.

Cocks.—1st and 2nd, Latta Bros.
Hens.—1st and 2nd, Latta Bros.
Cockerels.—1st and 2nd, Latta Bros.
Pullets.—1st and 2nd, Latta Bros.

White Cochins.

Cocks.—1st and 2nd, Latta Bros.
Hens.—1st and 2nd, Latta Bros.
Cockerels.—1st and 2nd, Latta Bros.
Pullets.—1st and 2nd, Latta Bros.

Buff Cochins.

Cocks, 5.—1st and 3rd, C. A. Stewart ; 2rd, Hugh Wyatt ; 4th, A. W. Bell.
Hens, 6.—1st and 4th, Hugh Wyatt ; 2nd and 3rd, C. A. Stewart.
Cockerels, 9.—1st and 2nd, Hugh Wyatt ; 3rd A. C. Nichols ; 4th, A. W. Bell.
Pullets, 10.—1st and 2nd, Hugh Wyatt ; 3rd, C. A. Stewart ; 4th, A. C. Nichols.

Partridge Cochins.

Cocks, 7.—1st, A. W. Bell ; 2nd, R. Oke ; 3rd, Latta Bros. ; 4th, G. Murray.
Hens, 6.—1st, R. Oke ; 2nd, W. G. Murray ; 3rd, Latta Bros.
Cockerels, 6.—1st, R. Oke ; 2nd and 3rd, W. G. Murray.
Pullets, 10.—1st, R. Oke ; 2nd and 3rd, W. G. Murray ; 4th, Latta Bros.

Black Langshans.

Cocks, 6.—1st and 2nd, R. McCurdy ; 3rd, C. A. R. Tilt.
Hens, 9.—1st, R. McCurdy ; 2nd, C. A. R. Tilt ; 3rd, Jas. Philpott.
Cockerels, 7.—1st and 2nd, R. McCurdy ; 3rd, G. A. Langlier.
Pullets, 11.—1st and 2nd, E. J. Dewey ; 3rd and 4th, R. McCurdy.

A. O. C. Langshans.

Cocks, 3.—1st, M. T. Burn ; 2nd and 3rd, W. J. Teale.
Hens, 3.—1st and 2nd, W. J. Teale ; 3rd, M. T. Burn.
Cockerels, 3.—1st and 2nd, W. J. Teale ; 3rd, J. & L. Smith.
Pullets, 4.—1st, W. J. Teale ; 2nd and 3rd, J. & L. Smith.

BARRED PLYMOUTH ROCKS.

Cocks, 24.—1st and 8th, I. K. Millard ; 2nd, Jas. Walker ; 3rd and 9th, Cosh & Co.; 4th, J. R. Boyce ; 5th, J. T. Knight ; 6th, W. McLoud ; 7th, Thos. Andrew.
Hens, 33.—1st, 4th and 6th, I. K. Millard ; 2nd and 5th, Cosh & Co.; 3rd, R. McKay ; 7th, C. V. Cassidy; 8th, Jas. McCormack ; 9th, Thos. Andrew.
Cockerels, 37.—1st and 4th, I. K. Millard ; 2nd, 3rd and 5th, Cosh & Co.; 6th, J. R. Boyce ; 7th, R. B. Millard ; 8th and 9th, Thos. Andrew.
Pullets, 41.—1st and 2nd, C. V. Cassidy ; 3rd and 4th, G. Kinder ; 5th, 7th and 8th, Cosh & Co.; 6th and 9th, I. K. Millard.

WHITE PLYMOUTH ROCKS.

Cocks, 12.—1st, F. A. Andrews ; 2nd, H. A. Hagen ; 3rd, A. G. Brown ; 4th, Thos. Rice.
Hens, 17,—1st, H. A. Hagen ; 2nd, L. C. Sage ; 3rd, W. H. Bessie ; 4th, Jas. Carroll.
Cockerels, 19,—1st, H. H. Wallace ; 2nd, T. Rice ; 3rd, F. A. Andrews ; 4th, L. C. Sage.
Pullets, 23.—1st, H. H. Wallace ; 2nd and 5th, H. A. Hagen ; 3rd, A. G. Brown ; 4th, T. Rice.

BUFF PLYMOUTH ROCKS.

Cocks, 8.—1st and 3rd, G. A. Ionson ; 2nd, C. J. Daniels.
Hen, 1st and 3rd, G. A. Ionson ; 2nd, J. A. Guttin.
Cockerels, 10.—1st and 2nd, G. A. Ionson ; 3rd, Jos. McKay.
Pullets, 9.—1st and 3rd, J. A. Ionson ; 2nd, Jos. McKay.

GOLDEN WYANDOTTES.

Cocks, 12.—1st, J. H. Magill ; 2nd, Wray Bros.; 3rd, J. Barr ; 4th, A. W. Graham.
Hens, 10.—1st, 2nd and 3rd, J. H. Magill.
Cockerels, 18.—1st, Wray Bros.; 2nd and 4th, A. W. Graham ; 3rd, J. A. Carroll.
Pullets, 24.—1st, J. Barr ; 2nd, J. H. Magill ; 3rd and 5th, Wray Bros.; 4th, J. A. Carroll.

SILVER WYANDOTTES.

Cocks, 7.—1st, A and T. Readwin ; 2nd, Jas. Arthurs ; 3rd, Wray Bros.
Hens, 8.—1st and 3rd, Jas. Arthurs ; 2nd, Wray Bros.
Cockerels, 14.—1st, Wray Bros.; 2nd, Jas. Philpott ; 3rd, Jas. Arthurs ; 4th, G. and J. Bogue.
Pullets, 16.—1st and 3rd, Jas. Arthurs ; 2nd and 4th, Wray Bros.

BLACK WYANDOTTES.

Cocks, 2.—1st, G. Bogue ; 2nd, F. P. McDonnell.
Hens, 3.—1st, G. Bogue ; 2nd, F. P. McDonnell ; 3rd, R. Oke.
Cockerels, 3.—1st, R. Dinner ; 2nd, G. & J. Bogue ; 3rd, F. P. McDonnell.
Pullets, 4.—1st, R. Oke ; 2nd, G. Bogue ; 3rd, R. Dinner.

BUFF WYANDOTTES.

Cocks, 10.—1st and 2nd, A. W. Graham ; 3rd, S. T. Bartlett.
Hens, 11.—1st, J. W. Saunders ; 2nd, Cosh & Co.; 3rd, Spry & Mick.
Cockerels, 9.—1st, A. W. Graham ; 2nd, J. W. Saunders ; 3rd, S. T. Bartlett.
Pullets, 10.—1st, J. W. Saunders ; 2nd, S. T. Bartlett ; 3rd, Jas. Dundas.

WHITE WYANDOTTES.

Cocks, 14.—1st, Dentonia Park Farm ; 2nd, J. A. Carroll ; 3rd, C. Massie ; 4th, T. F. Kingsmill, jr.
Hens, 21.—1st, L. Smith ; 2nd, Dentonia Park Farm ; 3rd, C. Massie ; 4th, J. A. Carroll ; 5th, T. F. Kingsmill, jr.
Cockerels, 29.—1st and 2nd, Chas. Massie ; 3rd, T. F. Kingsmill ; 4th, Jas. Carroll.
Pullets, 34.—1st and 2nd, T. F. Kingsmill ; 3rd and 5th, Chas. Massie ; 4th, W. Wilson.

DOMINIQUES.

Cocks, 4.—1st, Fink & McMichael ; 2nd, M. T. Burn ; 3rd, G. & J. Bogue.
Hens, 4.—1st and 2nd, M. T. Burn ; 3rd, G. & J. Bogue.
Cockerels, 4.—1st, Fink & McMichael ; 2nd, G & J. Bogue ; 3rd, M. T. Burn.
Pullets, 4.—1st and 3rd, M. T. Burn ; 2nd, Fink & McMichael.

BLACK JAVAS.

Cocks, 3.—1st, C. J. Daniels ; 2nd, G. & J. Bogue ; 3rd, W. H. Reid.
Hens, 6.—1st, R. Oke ; 2nd, C. J. Daniels ; 3rd, J. Colson.
Cockerels, 6.—1st, R. Oke ; 2nd, J. Colson ; 3rd, G. & J. Bogue.
Pullets, 7.—1st and 3rd, J. Colson ; 2nd, G. & J. Bogue.

A. C. C. JAVAS.

Cocks, 3.—1st, W. H. Reid ; 2nd, C. J. Daniels ; 3rd, R. Oke.
Hens, 4.—1st, C. J. Daniels ; 2nd, W. H. Reid ; 3rd, R. Oke.
Cockerels, 4.—1st and 3rd, R. Oke ; 2nd, G. & J. Bogue.
Pullets, 4.—1st, R. Oke ; 2nd, G. & J. Bogue ; 3rd, W. H. Reid.

R. C. WHITE LEGHORNS.

Cocks, 7.—1st and 2nd, W. A. Rife ; 3rd, W. G. Murray.
Hens, 7.—1st, W. G. Murray ; 2nd, R. Oke ; 3rd, W. A. Rife.
Cockerels, 13.—1st and 2nd, W. A. Rife ; 3rd and 4th, W. G. Murray.
Pullets, 13.—1st and 3rd, W. A. Rife ; 2nd, G. Gow ; 4th, W. J. Bell.

S. C. White Leghorns.

Cocks, 16.—1st and 3rd, Thos. Rice ; 2nd, J. Ramsay ; 4th, Jas. McKee.
Hens, 17.—1st, Thos. Rice ; 2nd, W. Ferguson ; 3rd, Jno. Ramsay ; 4th, F. Wickson.
Cockerels, 24,—1st, J. Ramsay ; 2nd and 3rd, T. Rice ; 4th, R. C. Coates ; 5th, E. Builder.
Pullets, 29.—1st, T. Rice ; 2nd and 3rd, C. Hertel ; 4th, W. Ferguson ; 5th, R. C. Coates.

Black Leghorns.

Cocks, 7.—1st and 3rd, W. M. Osborne ; 2nd, A. Doan.
Hens, 10.—1st, W. M. Osborne ; 2nd and 3rd, A. Doan.
Cockerels, 10.—W. G. Murray ; 2nd, J. Lannin ; 3rd, W. M. Osborne.
Pullets, 10.—1st and 2nd, W. G. Murray ; 3rd, A. & T. Readwin.

R. C. Brown Leghorns.

Cocks, 7.—1st, Wilson & Sons ; 2nd and 3rd, H. R. Tozer.
Hens, 9.—1st and 3rd, H. R Tozer ; 2nd, Wilson & Sons.
Cockerels, 10.—1st and 3rd, Wilson & Sons ; 2nd, W. G. Murray.
Pullets, 10.—1st, H. R. Tozer ; 2nd, Henderson & Billings ; 3rd, W. G. Murray.

S. C. Brown Leghorns.

Cocks, 10.—1st, G. Henderson ; 2nd and 4th, Dewar Bros.; 3rd, Jno. Bradley.
Hens, 14.—1st, H. F. Becker ; 2nd, Dewar Bros.; 3rd and 4th, G. Henderson.
Cockerels, 20.—1st and 3rd, W. Pollock ; 2nd, G. Henderson ; 4th, J. Bradley ; 5th, Dewar Bros.
Pullets, 22.—1st, Polson & Lockwood ; 2nd, H. F. Becker ; 3rd and 4th, J. Bradley; 5th, W. E. Pollock.

Buff Leghorns.

Cocks, 9.—1st and 2nd, N. Cornwall ; 3rd and 4th, E. Jeffries ; 5th, J. K. Leslie.
Hens, 12.—1st and 2nd, J. Dundas ; 3rd, E. Jeffries ; 4th, N. K. Cornwall.
Cockerels, 18.—1st, P. H. Roos ; 2nd, E. Jeffries ; 3rd, 4th and 5th, N. K. Cornwall.
Pullets, 15.—1st, 2nd and 3rd, Jas. Dundas ; 4th, P. H. Roos ; 5th, N. Cornwall.

Spanish.

Cocks, 4.—1st, Armstrong Bros ; 2nd, Allan Bogue ; 3rd, G. & J. Bogue.
Hens, 4.—1st, Henderson & Billings ; 2nd, Armstrong Bros.; 3rd, Chas. F. Rice.
Cockerels, 5.—1st, G. & J. Bogue ; 2nd, T. Rice ; 3rd, Henderson & Billings.
Pullets, 4.—1st and 2nd, G. & J. Bogue ; 3rd, P. Gould.

Black Minorcas.

Cocks, 9.—1st and 3rd, J. H. Minshall ; 2nd, C A. Mayhew.
Hens, 12.—1st, C. A. Mayhew ; 2nd and 4th, H. J. Minshall ; 3rd, E. Frith.
Cockerels, 19.—1st, 2nd and 3rd, J. H. Minshall ; 4th, L. V. Zavitz.
Pullets, 15.—1st, 2nd and 3rd, J. H. Minshall ; 4th, C. A. Mayhew.

White Minorcas.

Cocks, 2.—1st, W. G. Murray ; 2nd, H. Dunne.
Hens, 4.—1st and 2nd, W. G. Murray ; 3rd, H. Dunne.
Cockerels, 6.—1st, H. Dunne ; 2nd and 3rd, W. G. Murray.
Pullets, 6.—1st and 3rd, H. Dunne ; 2nd, W. G. Murray.

Andalusians.

Cocks, 2.—1st and 2nd, N. Cosh & Co.
Hens, 3.—1st, T. Wardell ; 2nd and 3rd, Cosh & Co.
Cockerels, 6.—1st and 2nd, Cosh & Co.; 3rd, T. Wardell.
Pullets, 4.—1st and 2nd, Cosh & Co.; 3rd, J. Guttin.

G. S. Hamburgs.

Cocks, 2.—1st, R. Oke ; 2nd, Wm. McNeil.
Hens, 2.—1st, Wm. McNeil ; 2nd, R. Oke.
Cockerels, 2.—1st, Wm. McNeil ; 2nd, R. Oke.
Pullets, 2.—1st, Wm. McNeil ; 2nd, R. Oke.

S. S. Hamburgs.

Cocks, 5.—1st, Wm. McNeil ; 2nd, D. S. Cullen ; 3rd, R. Oke.
Hens, 3.—1st, R. Oke ; 2nd, Wm. McNeil.
Cockerels, 2 —1st, Wm. McNeil ; 2nd, R. Oke.
Pullets, 3.—1st, Wm. McNeil ; 2nd, R. Oke ; 3rd, S. Snowden.

G. P. Hamburgs.

Cocks, 4.—1st, Wm. McNeil ; 2nd, D. S. Cullen ; 3rd, J. Hetherington.
Hens, 4.—1st, R. Oke ; 2nd Wm. McNeil ; 3rd, J. Hetherington.
Cockerels, 5.—1st, R. Oke ; 2nd, Wm. McNeil ; 3rd, A. Bogue.
Pullets, 3 —1st, R. Oke ; 2nd, Wm. McNeil ; 3rd, Hetherington.

S. P. Hamburgs.

Cocks, 2.—1st, Wm. McNeil.
Hens, 2.—1st, Wm. McNeil ; 2nd, R. Oke.
Cockerels, 2.—1st, R. Oke ; 2nd, Wm. McNeil.
Pullets, 2.—1st, Wm. Neil ; 2nd, R. Oke.

Black Hamburgs.

Cocks, 2.—1st, Wm. McNeil ; 2nd, R. Oke.
Hens, 2.—1st, R. Oke ; 2nd, Wm. McNeil.
Cockerels, 2.—1st, R. Oke ; 2nd, Wm. McNeil.
Pullets, 2.—1st, R. Oke ; 2nd, Wm. McNeil.

Red Caps.

Cocks, 3.—1st and 2nd, G. W. Kinder ; 3rd, C. J. Daniels.
Hens, 4.—1st and 2nd, C. J. Daniels ; 3rd, G. Kinder.
Cockerels, 6.—1st and 2nd, G. Kinder ; 3rd, C. J. Daniels.
Pullets, 3.—1st, G. & J. Bogue ; 2nd and 3rd, G. Kinder.

Black Red Games.

Cocks, 13.—1st and 4th, Warwick Game Yards ; 2nd, J. Crowe ; 3rd, G. Vance ; 5th, W. A. Henderson.
Hens, 11.—J. Morley ; 2nd, R. H. Barber ; 3rd, J. Philpott ; 4th, J. Crowe.
Cockerels, 11.—1st, Warwick Game Yards ; 2nd, J. Crowe ; 3rd and 4th, J. Morley.
Pullets, 12.—1st and 2nd, J. Morley ; 3rd, J. Crowe ; 4th, Geo. Vance.

Brown Red Games.

Cocks, 7.—1st, 2nd, 3rd and 4th, Tyson & McMaster.
Hens, 9.—1st and 3rd, Tyson & McMaster ; 2nd and 4th, W. Barber.
Cockerels, 5.—1st and 2nd, W. Barber ; 3rd, Tyson & McMaster.
Pullets, 6.—1st, Tyson & McMaster ; 2nd, A. G. H. Luxton ; 3rd and 4th, W. Barber.

Duckwing Games.

Cocks, 3.—1st and 3rd, W. Barber ; 2nd, Goulding & Son.
Hens, 6.—1st and 3rd, Goulding & Son ; 2nd and 4th, W. Barber.
Cockerels, 8.—1st and 3rd, W. Barber ; 2nd, W. A. Henderson.
Pullets, 3.—1st and 2nd, W. Barber ; 3rd, G. Vance.

Pyle Games.

Cocks, 9—1st and 2nd, Tyson & McMaster ; 3rd R. H. Barber ; 4th, G. Vance.
Hens, 11—1st, W. Barber ; 2nd and 3rd, Tyson & McMaster ; 4th, Goulding & Son.
Cockerels, 15—1st, Warwick Game Yards ; 2nd and 3rd, W. Barber ; 4th, A. G. H. Luxton.
Pullets, 12—1st, T. Sherlock ; 2nd, W. Barber ; 3rd and 4th, Tyson & McMaster.

Indian Games.

Cocks, 8—1st, R. Dinner ; 2nd, J. Modlin ; 3rd, J. Philpott ; 4th, Fink & McMichael.
Hens, 13—1st, J. A. Carroll ; 2nd, J. Modlin ; 3rd and 4th, E. Hales ; 5th, J. H. Parsons.
Cockerels, 10—1st, J. Modlin ; 2nd, J. A. Carroll ; 3rd, J. H. Parsons ; 4th, R. Dinner.
Pullets, 12—1st, J. Modlin ; 2nd, 3rd and 4th, J. H. Parsons.

Games. A. O. S. V.

Cocks, 2—1st, M. T. Burn ; 3nd, C. J. Daniels.
Hens, 4—1st, M. T. Burn ; 2nd, C. J. Daniels.
Cockerels, 5—1st, G. and J. Bogue ; 2nd, M. T. Burn ; 3rd, C. J. Daniels.
Pullets, 6—1st, C. J. Daniels ; 2nd, M. T. Burn ; 3rd, G. & J. Bogue.

Silver Grey Dorkings.

Cocks, 5—1st, Jno. McKee ; 2nd, A. Bogue ; 3rd, J. K. Corcoran.
Hens, 7—1st and 3rd, J. McKee ; 2nd, J. Corcoran.
Cockerels, 11—1st, J. Corcoran ; 2nd and 3rd. J. McKee.
Pullets, 11—1st, J. Corcoran ; 2nd, J. McCormick ; 3rd, A. McDougall.

Colored Dorkings.

Cocks, 3—1st, S. D. Furminger ; 2nd, A. Bogue ; 3rd, J. L. Corcoran.
Hens, 6—1st, A. Bogue ; 2nd, S. D. Furminger ; 3rd, Jas. McCormack.
Cockerels, 4—1st and 2nd, Jas. McCormack ; 3rd, J. L. Corcoran.
Pullets, 5—1st and 3rd, J. McCormack ; 2nd, A. Bogue.

White Dorkings.

Cocks—1st and 2nd, A. Bogue.
Hens—1st and 2nd, A Bogue.
Cockerels—1st and 2nd, A. Bogue.
Pullets—1st and 2nd, A. Bogue.

Orpingtons.

Cocks, 8—1st, W. C. Hugh ; 2nd, S. D. Furminger ; 3rd, C. J. Daniels.
Hens, 13—1st, C. J. Daniels ; 2nd and 3rd. S. W. D. Frith.
Cockerels, 16—1st, C. J. Daniels ; 2nd, J. B. Greig ; 3rd, Jos. McKay ; 4th, W. K. Kerr.
Pullets, 26—1st and 3rd, J. Greig ; 2nd and 5th, S. W. D. Frith ; 4th, T. F. Kingsmill, Jr.

W. C. B. Polands.

Cocks, 2—1st, A. Bogue ; 2nd, Wm. McNeil.
Hens, 2—1st, Wm. McNeil, 2nd, A. Bogue.
Cockerels, 3—1st, Wm. McNeil ; 2nd, G. & J. Bogue ; 3rd, A. Bogue.
Pullets, 3—1st, W. McNeil ; 2nd, G. & J. Bogue ; 3rd, A. Bogue.

Golden Polands.

Cocks, 3—1st, G. & J. Bogue ; 2nd, A. Bogue ; 3rd, Wm. McNeil.
Hens, 3—1st, W. McNeil ; 2nd, A. Bogue ; 3rd, G. & J. Bogue.
Cockerels, 3—1st, McNeil ; 2nd, G. & J. Bogue ; 3rd, A. Bogue.
Pullets, 3—1st, A. Bogue ; 2nd, G. & J. Bogue ; 3rd, W. McNeil.

WHITE POLANDS.

Cocks, 2—1st, W. McNeil ; 2nd, A Bogue ; 3rd, P. Gould.
Hens, 2—1st, W. McNeil : 2nd, A. Bogue.
Cockerels, 2—1st, A. Bogue ; 2nd, McNeil.
Pullets, 2—1st, A. Bogue ; 2nd, McNeil.

GOLD BEARDED POLANDS.

Cocks, 2—1st, McNeil ; 2nd, A. Bogue.
Hens, 2—1st, A. Bogue ; 2nd, McNeil.
Cockerels, 2—1st, A. Bogue ; 2nd, W. McNeil.
Pullets, 2—1st, A. Bogue ; 2nd, W. McNeil.

SILVER BEARDED POLANDS.

Cocks, 2—1st, A. Bogue ; 2nd, McNeil.
Hens, 2—1st, W. McNeil ; 2nd, A. Bogue.
Cockerels, 2—1st, W. McNeil ; 2nd, A. Bogue.
Pullets, 2—1st, W. McNeil ; 2nd, A. Bogue.

WHITE BEARDED POLANDS.

Cocks, 2—1st, McNeil ; 2nd, A. Bogue.
Hens, 3—1st, W. McNeil ; 2nd, Peter Gould.
Cockerels, 1—1st, W. McNeil.
Pullets, 2—1st, W. McNeil.

BUFF LACED POLANDS.

Cocks, 2—1st and 2nd, McNeil.
Hens, 3—1st and 2nd, W. McNeil ; 3rd, Armstrong Bros.
Cockerels, 2—1st and 2nd, W. McNeil.
Pullets, 2—1st and 2nd, W. McNeil.

HOUDANS.

Cocks, 1—1st, G. & J. Bogue.
Hens, 4—1st, G. & J. Bogue ; 2nd, J. A. Guttin ; 3rd, C. Stockwell.
Cockerels, 6—1st and 2nd, G. & J. Bogue ; 3rd, J. A. Guttin.
Pullets, 6—1st, W. Henry ; 2nd, J. Guttin ; 3rd, G. & J. Bogue.

CREVE COEURS.

Cocks, 2—1st, R. Oke.
Hens, 2—1st, G. & J. Bogue 2nd, R. Oke.
Cockerels, 2—1st, R. Oke ; 2nd, G. & J. Bogue.
Pullets, 2—1st, R. Oke ; 2nd, G. & J. Bogue.

LA FLECHE.

Cocks, 2—1st, G. & J. Bogue ; 2nd, R. Oke.
Hens, 2—1st, R. Oke ; 2nd, G. & J. Bogue,
Cockerels, 2—1st. G. & J. Bogue ; 2nd, R. Oke.
Pullets, 2—1st, G. & J. Bogue 2nd, R. Oke.

SULTANS.

Cocks, 2—1st, R. Oke : 2nd, G. & J. Bogue.
Hens, 2—1st, & 2nd, R. Oke.
Cockerels, 1—1st, R. Oke.
Pullets, 2—1st and 2nd, R. Oke.

SILKIES.

Cocks, 4—1st, M. T. Burn ; 2nd, H. B, Donovan ; 3rd, J. Innes.
Hens, 6—1st and 3rd, W. McNeil ; 2nd, M. T. Burn.
Cockerels, 3—1st, W. McNeil ; 2nd, H. B. Donovan.
Pullets, 3—1st, W. McNeil ; 2nd, H. B. Donovan.

A. O. VARIETY.

Cocks, 7—1st, T. H. Scott ; 2nd, W. Caughbell ; 3rd, S. D. Furminger.
Hens, 7—1st, T. H. Scott ; 2nd, J. Innes ; 3rd, M. T. Burn.
Cockerels, 12—1st and 3rd, T. H. Scott ; 2nd, J. McKay ; 4th, C. Massie.
Pullets, 10.—1st, T. H. Scott ; 2nd, Dewar Bros. ; 3rd, J. C. McKay.

CROSS-BRED.

Cockerels, 6.—1st and 2nd, E. Hales ; 3rd, H. Karn.
Pullets, 5.—1st, H. Karn ; 2nd, J. H. Parsons ; 3rd, E. Hales.

TURKEYS.

BRONZE 2 YEARS AND UP.

Cocks, 5.—1st, W. J. Bell ; 2nd, McDougall & Son : 3rd, W. H. Beattie ; 4th, W. E. Wright ; 5th. S. Snowdon.
Hens, 7.—1st, W. J. Bell ; 2nd, W. H. Beattie ; 3rd, Ford & Son ; 4th, McDougall & Son ; 5th, W. E. Wright.

1 year and under 2.

Cocks, 8.—1st, W. H. Beattie ; 2nd, McDougall & Son ; 3rd, Ford & Son ; 4th, W. E. Wright ; 5th Scanlan Bros.
Hens, 7.—1st, W. J. Bell ; 2nd, McDougall & Son ; 3rd, W. E. Wright ; 4th, W. H. Beattie ; 5th, Ford & Son.
Cockerels, 13—1st and 2nd, McDougall & Son ; 3rd, and 5th, Ford & Son ; 4th, W. Wright.
Pullets, 11.—1st and 5th, W. J. Bell ; 2nd, A. McDougall ; 3rd, W. E. Wright ; 4th, Ford & Son.

WHITE OR BLACK.

Cocks, 4.—1st, 3rd and 4th, W. H. Beattie ; 2nd, E. Hales.
Hens, 1st, 3id and 4th, W. H. Beattie ; 2nd, E. Hales.
Cockerels, 5.—1st, A. Elliott ; 2nd, 3rd and 4th, W. H. Beattie ; 5th, W. J. Bell.
Pullets, 5.—1st, 2nd and 3rd, W. H. Beattie ; 4th, A. Elliott ; 5th, W. J. Bell.

A. O. V. Turkey.

Cocks, 6—1st, Geo. Gow ; 2nd and 3rd, A. Elliot ; 4th, W. H. Beattie ; 5th, A. G. Luxton.
Hens, 5 —1st and 2nd, A. Elliot ; 3rd, W. H. Beattie : 4th and 5th, A. G. Luxton.
Cockerels, 7—1st, W. H. Beattie ; 2nd, A. Elliot ; 3rd, G. Gow ; 4th, A. G. Luxton ; 5th, S. Snowdon.
Pullets, 7.—1st, W. E. Wright ; 2nd, A. Elliot ; 3rd, G. Gow ; 4th and 5th, A. G. Luxton.

Toulouse Geese.

Males, 6.—1st, A. Bogue ; 2nd, G. Colwell ; 3nd, T. Shea ; 4th, Scanlan Bros.
Females, 6.—1st, A. Bogue ; 2nd, G. Colwell ; 3rd, T. Shea ; 4th, Scanlan Bros.
1902, Males, 7.—1st, 2nd and 4th, G. Colwell ; 3rd, T. Shea.
Females, 6.—1st and 2nd, G. Colwell ; 3rd, T. Shea ; 4th, Scanlan Bros.

Bremen.

Males, 6.—1st, C. A. Tilt ; 2nd, G. Colwell ; 3rd, A. McDougall ; 4th, M. T. Burn.
Females, 6.—1st. G. Colwell ; 2nd, McDougall & Son ; 3rd, C. A. Tilt ; 4th, M. T. Burn.
1902, Males, 5.—1st and 3rd, G. Colwell ; 2nd, C. A. Tilt ; 4th, McDougall & Son.
Females, 5.—1st and 3rd, G. Colwell ; 2nd, C. A. Tilt ; 3rd, A. McDougall.

China Geese.

Males, 5.—1st, A. G. Luxton ; 2nd and 3rd, M. T. Burn ; 4th, G. Colwell.
Females, 5.—1st, A. G. Luxton ; 2nd and 3rd, G. Colwell ; 4th, M. T. Burn.
1902 Males, 5.—1st, A. G. Luxton ; 2nd and 3rd, M. T. Burn ; 4th, G. Colwell.
1902, Females, 5.—2st, A. G. Luxton ; 2nd and, 3rd, M.T. Burn ; 4th G. Colwell.

A. O. V. Geese.

Males, 5.—1st, G. Colwell ; 2nd and 3rd, M. T. Burn ; 4th, A. G. Luxton.
Females, 4.—1st and 2nd, M. T. Burn ; 3rd, G. Colwell ; 4th, A. G. Luxton.

A. O. V. 1902.

Males, 4.—1st and 4th, M. T. Burn ; 2nd, A. Luxton ; 3rd, G. Colwell.
Females, 4 —1st, G. Colwell ; 2nd, A. Luxton ; 3rd and 4th, M. T. Burn.

DUCKS.

Aylesbury.

Drakes, 4.—1st, H. H. Wallace ; 2nd, G. Colwell ; 3rd, M. T. Burn.
Ducks, 5.—1st and 2nd, H. H. Wallace ; 3rd, G. Colwell.
1902, Drakes, 4.—1st, A. Bogue ; 2nd and 3rd, G. Colwell.
1902, Ducks, 4.—1st, A. Bogue ; 2nd and 3rd, G. Colwell.

Rouen.

Drakes, 5.—1st and 2nd, G. Colwell ; 3rd, T. Shea.
Ducks, 5.—1st and 2nd, G. Colwell ; 3rd, A. Bogue.
1902, Drakes, 5.—1st and 2nd, G. Colwell ; 3rd. A. Bogue.
1902, Ducks, 4.—1st, A. Bogue ; 2nd and 3rd, G. Colwell.

Pekin.

Drakes, 6.—1st, A. Bogue ; 2nd, E. Baker ; 3rd, G. Colwell.
Ducks, 8.—1st, C. A. Tilt ; 2nd, G. Colwell ; 3rd, A. Bogue.
1902, Drakes, 12.—1st, A. Bogue ; 2nd, G. Colwell ; 3rd, C. A. Tilt.
1902, Ducks, 12.—1st, C. A. Tilt ; 2nd, G. Colwell ; 3rd, A. Bogue.

Cayuga.

Drakes, 8.—1st and 2nd, I. F. Knight ; 3rd, M.T. Burn.
Ducks, 6.—1st, G Colwell ; 2nd, W. H. Reid ; 3rd, I. F. Knight.
1902, Drakes, 9.—1st, 2nd and 3rd, I. F. Knight.
1902, Ducks, 8.—1st and 2nd, I. F. Knight ; 3rd, W. J. Teale.

A. O. V. Ducks.

Drakes, 4.—1st and 2nd, J. Colson ; 3rd, S. D. Furminger.
Ducks, 4.—1st and 2nd, J. Colson ; 3rd, S. D. Furminger.
1902, Drakes, 3.—1st, M. T. Burn ; 2nd and 3rd, J. Colson.
1902, Ducks, 4.—1st and 3rd, J. Colson ; 2nd, M. T. Burn.

BANTAMS.

Game Black Red.

Cocks, 11.—1st and 2nd, C. Crowe ; 3rd, W. Barber ; 4th, G. Colwell.
Hens, 12.—1st, C. Crowe ; 2nd, W. Barber ; 3rd, F. M. Wolfe ; 4th ; H. J. Pawling.
Cockerels, 15.—1st and 2nd, Oakwood Farm ; 3rd and 4th, C. Crowe ; 5th, Tyson & McMaster.
Pullets, 16.—1st, Oakwood Farm ; 2nd, 3rd and 4th, C. Crowe ; 5th, Tyson & McMaster.

BROWN RED.

Cocks, 5.—1st, W. Barber ; 2nd, A. Bricker ; 3rd, J. McCormack.
Hens, 5.—1st, W. Hammell ; 2nd, W. Barber ; 3rd, J. McCormack.
Cockerels, 5.—1st, W. Barber ; 2nd, J. Philpott ; 3rd, G. J. White.
Pullets, 6.—1st, J. Philpott ; 2nd, G. J. White ; 3rd J. McCormack.

DUCKWING.

Cocks, 5.—1st and 2nd, W. Barber ; 3rd, Hart & Grimoldby.
Hens, 3.—1st, F. M. Wolfe ; 2nd and 3rd, W. Barber.
Cockerels, 8.—1st and 2nd, W. Barber ; 3rd, F. M. Wolfe ; 4th, F. J. Kiley.
Pullets, 5.—1st and 2nd, W. Barber ; 3rd, F.M. Wolfe.

PYLE.

Cocks, 10.—1st and 2nd. J. Bertie ; 3rd, J. F. Monck ; 4th, W. Barber ; 5th, Hart & Grimoldby ; 6th Tyson & McMaster.
Hens, 12.—1st and 2nd, J. Bertie ; 3rd and 4th, C. Crowe ; 5th, Tyson & McMaster.
Cockerels, 17.—1st, 2nd, 3rd and 4th, J. Bertie ; 5th, Tyson & McMaster.
Pullets, 18.—1st, 2nd and 3rd, J. Bertie ; 4th C. Crowe.

A. O V. GAME BANTAMS.

Cocks, 3.—1st, W. Hammell ; 2nd, S. D. Furminger.
Hens, 4.—1st. W. Hammell ; 2nd, H. B. Donovan ; 3rd, S. D. Furminger
Cockerels, 3—1st, W. Hammell ; 2nd, S. D. Furminger ; 3rd, H. B. Donovan.
Pullets, 4—1st, H. B. Donovan ; 2nd, S. D. Furminger ; 3rd, W. Hammell.

GOLDEN SEBRIGHT BANTAMS.

Cocks, 3—1st, R. Oke ; 2nd, W. McNeil.
Hen, 3—1st, R. Oke ; 2nd, W. McNeil ; 3rd, C. R. Hancock.
Cockerels, 2—1st, R. Oke ; 2nd, W. McNeil.
Pullets, 2--1st, W. McNeil ; 2nd, R. Oke.

SILVER SEBRIGHT.

Cocks, 2—1st, R. Oke ; 2nd, W. McNeil.
Hens, 2—1st, W. McNeil ; 2nd, R. Oke.
Cockerels, 3—1st, W. McNeil ; 2nd, R. Oke ; 3rd, J. J. Pickard.
Pullets, 3—1st, W. McNeil ; 2nd, R. Oke ; 3rd, J. J. Pickard.

ROSE COMB.

Cocks, 5—1st, W. McNeil ; 2nd, H. B. Donovan ; 3rd and 4th, R. Oke.
Hens, 5—1st, H. B. Donovan ; 2nd, W. McNeil ; 3rd and 4th, R. Oke.
Cockerels, 3—1st and 3rd, R. Oke ; 2nd, McNeil.
Pullets, 5—1st, H. B. Donovan ; 2nd, McNeil ; 3rd, W. J. Teale ; 4th, R. Oke.

WHITE COCHIN BANTAMS.

Cocks, 4—1st and 2nd, W. McNeil ; 3rd H. B. Donovan.
Hens, 4—1st and 2nd, W. McNeil ; 3rd, H. B. Donovan.
Cockerels, 3—1st and 2nd, W. McNeil ; 3rd, J. Colson.
Pullets, 4—1st and 2nd, W. McNeil ; 3rd, H. Donovan.

BUFF COCHIN.

Cocks, 5—1st, R. Oke ; 2nd, W. McNeil ; 3rd W. J. Teale.
Hens, 5—1st W. McNeil ; 2nd, H. Donovan ; 3rd, R. Oke.
Cockerels, 6—1st, W. McNeil ; 2nd, A. Despres ; 3rd, H. Donovan.
Pullets, 4—1st W. McNeil ; 2nd, R. Oke ; 3rd, W. J. Teale.

BLACK COCHIN.

Cocks, 4—1st, G. Colwell ; 2nd and 3rd, T. J. Kiley.
Hens, 4—1st, T. J. Kiley ; 2nd W. J. Teale ; 3rd, G. Colwell.
Cockerels, 5—1st and 3rd, T. J. Kiley ; 2nd, G. J. White.
Pullets, 5—1st and 3rd, T. J. Kiley ; 2nd G. J. White.

PARTRIDGE-COCHIN.

Cocks, 5—1st and 3rd, H. B. Donovan ; 2nd, A. W. Bell.
Hens, 5—1st and 3rd, H. B. Donovan ; 2nd, A. W. Bell.
Cockerels, 4—1st and 2nd, A. W. Bell.
Pullets, 6—1st and 2nd, A. W. Bell.

WHITE-BOOTED.

Cocks, 2—1st, H. B. Donovan.
Hens, 5—1st, R. Oke ; 2nd, H. B. Donovan ; 3rd, W. J Teale.
Cockerels, 6—1st, T. J. Kiley ; 2nd, R. Oke ; 3rd, W. J. Teale.
Pullets, 7—1st, T. J. Kiley ; 2nd, R. Oke ; 3rd, W. J. Teale.

BLACK TAILED JAPANESE.

Cocks, 3—1st, H. B. Donovan ; 2nd, W. McNeil.
Hens, 3—1st, H. B. Donovan ; 2nd, W. McNeil ; 3rd, R. Oke.
Cockerels, 2—1st, W. McNeil ; 2nd, R. Oke.
Pullets, 2—1st, R. Oke ; 2nd, W. McNeil.

Polish.

Hens, 3—1st, W McNeil; 2nd, R. Oke; 3rd, H. B. Donovan.
Cocks, 2—1st, W. McNeil; 2nd, R. Oke.
Pullets, 2—1st, W. McNeil; 2nd, R. Oke.
Cockerels, 2—1st, W. McNeil; 2nd, R. Oke.

A. O. V. Bantams.

Cocks, 1—1st, H. B. Donovan; 2nd, R. Oke; 3rd, W. McNeil.
Hens, 4—1st W. McNeil; 2nd and 3rd, R. Oke.
Cockerels, 3—1st, W. McNeil; 2nd, H. B. Donovan; 3rd, R. Oke.
Pullets, 4—1st, W. McNeil; 2nd and 3rd, R. Oke.

Pair English Pheasants.

3. 1st, Dentonia Park Farm; 2nd, M. T. Burn.
Golden, 4—1st and 2nd, G. A. Mahew; 3rd, M. T. Burn.
Silver, 2—1st, G. A. Mahew; 2nd, M. T. Burn.
A.O.V., 3—1st, G. A. Mahew; 2nd, M. T. Burn.

Dressed Poultry.

Fowls—Brahams, Jos. Tomalin, Deer Park; J. W. Clark, Onondaga; L. C. Sage, London.
Cochins, H. Wyatt, London.
Plymouth Rock cockerels, Armstrong Bros. 1st, 2nd and 3rd; J. W. Clark, 4th.
Pullets, Armstrong Bros. 1st, 2nd and 4th; J. W. Clark, 3rd.
Wyandottes, cockerels, J. W. Clark, 1st and 3rd; Armstrong Bros., 2nd.
Pullets, J. W. Clark; G. & J. Bogue, Strathroy.
Minoreas or Andalusians, J. W. Minshall, Brantford, 1st, 3rd, 4th; Armstrong Bros., 2nd.
Leghorns, Scanlon Bros., Ennotville, 1st and 2nd; Jas. Dundas, Toronto, 3rd; W. E. Pollock, Norwich, 4th
Houdans, La Fleche, Creve Coeurs or Orpingtons—G. & J. Bogue, 1st; 2nd, C. Stockwell, London; 3rd and 4th, J. W. Clark.
Javas, G. & J. Bogue.
Hamburgs, Wm. McNeil, London, 1st, 2nd and 3rd; Jos. Tomlin, 4th.
Sweepstake in Chickens, Armstrong Bros.
Games, 1st, 2nd and 3rd, C. Stockwell.
Turkeys, any age, males—Woodrow & Sons, Burgessville, 1st and 2nd; E. A. Hales, Guelph, 3rd; A. McDougall, Milton, 4th.
Females, Scanlon Bros., 1st, Woodrow & Sons, 2nd and 3rd, A McDougall 4th.
1902 male, S. Snowdon, Bowmanville; Woodrow & Sons, 2nd and 4th; E. A. Hales, 3rd.
Female, S. Snowdon, Woodrow & Sons, 2nd and 3rd, J. Tomalin 4th; Sweepstake, Scanlon Bros.
Geese, white, E. A. Hales, A. McDougall, Jas. McCormack, Rockton.
Colored, Scanlon Bros. E. A. Hales, Woodrow & Son, J. McCormack; Sweepstake, Scanlon Bros.
Ducks, white, Mrs. M. A. Fife, Gourock, 1st and 3rd; Scanlon Bros. 2nd; J. W. Clark, 4th.
Colored, I. T. Knight, Guelph; Geo. Colwell, Paris; Jas. Philpott, Guelph, 3rd and 4th; Sweepstake, I. T. Knight.
Collections, Six Brahmas, Cochins, or Langshans—J. W. Clark, L. C. Sage. Six Plymouth Rocks or Wyandottes—Armstrong Bros., Jas. Watson, Miss McGill, J. W. Clark. Six Minorcas, Andalusians or Javas—J. H. Minshall. Six Dorkings, Houdans, LaFleche, Creve Cœurs, Orpingtons—C. Stockwell, J. W. Clark, 2nd and 3rd. Games—C. Stockwell, J. W. Clark, 2nd and 3rd. Leghorns and Hamburgs—W. McNeil; Scanlon Bros. 2nd and 3rd. Turkeys—Woodrow & Sons, J. Tomalin. Geese—Scanlon Bros., Woodrow & Sons, J. McCormack. Ducks—Mrs. M. A. Fife, Scanlon Bros., Jas. Philpott, J. W. Clark.
Doz. Eggs, white—1st and 2nd, J. H. Minshall; 3rd, C. J. Daniels.
Doz. Eggs, colored—1st, Miss McGill; 2nd, W. J. Campbell; 3rd and 4th, Peter Gould.

List of Specials.

Cup on best Plymouth Rocks, light Brahmas or single comb brown Leghorns—I. K. Millard; best collection white Plymouth Rocks, H. A. Hagen.
Best bird in American class—C. Massie; collection white Leghorns, T. Rice; largest entry in any one class, Tyson & McMaster.
Best shaped buff Wyandotte, male—W. H. Reid; best collection dark Brahmas, Garside and Sage; buff Cochins, H. Wyatt; pair old fowls, buff, H. Wyatt; collection Partridge Cochins, R. Oke; trio black Cochin chicks, Latta Bros; collection black Cochins, Latta Bros; collection and trio white Cochins, Latta Bros; collection black Langshans, R. McCurdy; white Plymouth Rocks, H. Hagen; buff Plymouth Rocks, G. A. Ionson; golden Wyandottes, J. H. Magill; silver Wyandottes, Jas. Arthurs; white, C. Massie; buff Wyandotte cock and hen, J. H. Saunders.
Javas—R. Oke.
Rose comb white Leghorns—W. Rife.
Black Leghorns—W. G. Murray.
Best collections—Andalusians, Cosh & Co.; golden spangled Hamburgs, W. McNeil; black Hamburgs, R. Oke; Indian Game, west of Guelph, J. Carroll; Bantams, golden Sebrights, R. Oke; silver Sebrights, W. McNeil; black rose comb, W. McNeil; white Cochins, W. McNeil; buff Cochins, W. McNeil; black Cochins, T. J. Kiley; black tailed Japanese, W. McNeil; white Japanese, W. McNeil; Polish, W. McNeil; white booted, R. Oke; white Dorkings, A. Bogue; golden Polands, plain, W. McNeil; white Polands, plain, McNeil and Bogue, equal; golden bearded Polands, A. Bogue; silver bearded Polands, W. McNeil; white bearded Polands, W. McNeil; buff laced Polands, W. McNeil; Creve, Coeur and La Fleche, R. Oke; Sultans, R. Oke; trio buff Orpington chicks, J. B. Greig; silkies, W. McNeil.

Collections—White turkeys, W. H. Beattie; Egyptian geese, M. T. Burn; Aylesbury ducks, H. H. Wallace; Cayuga ducks, I. F. Knight; buff Cochins, H. Wyatt; best black Langshan hen or pullet, hen; four birds, barred Plymouth Rocks, two cockerels and two pullets, Cosh & Co.; white Plymouth Rock cock or cockerel, white Plymouth Rock hen or pullet, hen; golden Wyandotte cock or cockerel, cockerel; golden Wyandotte hen or pullet, hen; silver Wyandote cock or cockerel, cockerel; silver Wyandote hen or pullet, hen; black Java hen, cockerel and pullet, J. Colson; collection red caps, G. Kinder; three brown red game hens, Tyson & McMaster; silver grey Dorking cock or cockerel, cock; male Orpington, W. Hugh; pair cross chicks, H. Karn; collection Indian runner ducks, J. Colson; best bird in American class, C. Massie; best bird in Mediterranean class, J. H. Minshall; best bird in the remaining classes, Oakwood Farm; largest and best collections brown red game, Tyson & McMaster; Indian game, male, cock, pair of A. O. V. game, Burn; exhibitor winning most prizes in black, red and pyle Bantams, Jas. Bertie; pair smooth faced white booted Bantams, H. B. Donovan; largest and best collection white Langshans, W. J. Teale; trio partridge Wyandottes, cock and two hens, T. H. Scott; pair young partridge Wyandottes, T. H. Scott; cock, hen, cockerel and pullet, partridge Cochin Bantams, A. W. Bell; highest scoring partridge Cochin Bantam, cock or cockerel, H. B. Donovan; best male and three females, barred Rocks, J. K. Millard; Bertram cup, J. K. Millard; best surface colored male in buff varieties, H. Wyatt; best surface colored female in buff varities, W. McNeil; best pair Duckwing Game, cock and hen, Wm. Barber; best pair white Wyandottes, cockerel and pullet, T. F. Kingsmill; two best buff Leghorn cockerels, W. K. Cornwall; three best buff Leghorn pullets, Jas. Dundas; pair Duckwing Game Bantams, cockerel and pullet, W. Barber; pair white Rock pullets, H. Hagen; pair white Rock cockerels, F. Andrews; four buff Orpingtons, cock, hen, cockerel and pullet, W. C. Hugh; barred Plymouth Rock cockerel and pullet, J. K. Millard; white Plymouth cockerel and pullet, H. Wallace; buff Plymouth Rock cockerel and pullet, G. A. Ionson; white Wyandotte cockerel and pullet, H. Kingsmill; buff Wyandotte cockerel and pullet, J. H. Saunders; pair duckwing Game, old, Wm. Barber; buff Leghorn cockerel and pullet, J. H. Roos; white Leghorn cockerel and pullet, W. A. Rife; pair black Minorcas, J. H. Minshall; pair Duckwing Bantams, cockerel and pullet, Wm. Barber; Plymouth Rock cock, any color, white cock, Wyandotte cockerel, any color, white cockerel; pair black Langshans, old, R. McCurdy; pair young Orpingtons, any color, J. B. Greig; pair young Houdans, G. & J. Bogue; collections buff Orpingtons, J. B. Greig; collection bronze turkeys, A. McDougall.

PIGEONS.

Black Carrier.

Cock—1st, J. H. Baulch; 2nd, G. J. White. *Hen*—1st, G. J. White; 2nd, J. H. Baulch.

Dun Carrier

Cock—1st, G. J. White. *Hen*—1st, G. W. Nahrgang; 2nd J. H. Baulch.

A.O.S.C. Carrier.

Cock—1st, W. H. Reid; 2nd, H. J. Baulch. *Hen*—1st, J. H. Baulch; 2nd, G. J. White.

Pouter, White.

Cock—J. H. Magill; 2nd, Ottawa Pigeon Lofts. *Hen*—1st, Ottawa Pigeon Lofts; 2nd, Robt. Henry.

Pouter, Blue Pied.

Cock—1st, Bell Currier & Price; 2nd, J. H. Magill. *Hen*—1st, Bell Currier & Price; 2nd, J. H. Magill.

Pouter, Black Pied.

Cock—1st and 2nd, J. H. Magill. *Hen*—1st and 2nd, J. H. Magill.

Pouter, Red or Yellow.

Cock—1st, J. H. Magill; 2nd, Bell Currier & Price. *Hen*—1st and 2nd, J. H. Magill.

Best Pair White Pouters—Ottawa Lofts.

Tumbler—S. F. Cock, 1st and 2nd, W. H. Reid. Hen, 1st, W. H. Reid; 2nd, Bell Currier & Price.

Tumbler, A.O.V.

Cock—1st, G. W. Nahrgang; 2nd, Burremont Lofts. *Hen*—1st, G. W. Nahrgang; 2nd, Burremont Lofts.

Barb, Red.

Cock—1st, Bell Currier & Price. *Hen*—1st, Burremont Lofts; 2nd, Bell Currier & Price.

Barb, Black.

Cock—1st, Burremont Lofts; 2nd, G. W. Nahrgang. *Hen*—1st, G. J. White; 2nd, G. W. Nahrgang.

Barb, A.O.S.C.

Cock—1st, G. W. Nahrgang; 2nd, Bell Currier & Price.
Hen—1st, Bell Currier & Price; 2nd, G. W. Nahrgang.

Trumpeter, White.

Cock—1st, J. H. Baulch. *Hen*—1st and 2nd, J. H. Baulch.

Trumpeter, A.O.S.C.

Cock—1st and 2nd, J. H. Baulch. *Hen*—1st and 2nd, J. H. Baulch.

JACOBIN, RED OR YELLOW.

Cock—1st, C. Massie ; 2nd, V. Barber. *Hen*—1st and 2nd, C. Massie.

JACOBIN, WHITE.

Cock—1st and 2nd, C. Massie. *Hen*—1st and 2nd, C. Massie.

JACOBIN, A.O.S.C.

Cock—1st, C. Massie ; 2nd, Bell Currier & Price. *Hen*—1st and 2nd, C. Massie.

ANTWERP, C.

Cock—1st and 2nd, W. H. Reid. *Hen*—1st and 2nd, W. H. Reid.

ANTWERP, SILVER DUN.

Cock—1st and 2nd, W. H. Reid. *Hen*—1st and 2nd, W. H. Reid.

FANTAIL, WHITE.

Cock—1st, C. Massie ; 2nd, R. K. Barker. *Hen*—1st, V. Barker ; 2nd, R. K. Barker.

FANTAIL, BLUE.

Cock—1st, M. T. Burn ; 2nd, Burremont Lofts. *Hen*—2nd, M. T. Burn.

FANTAIL, A.O.S.C.

Cock—1st, R. K. Barker ; 2nd, W. Hammill. *Hen*—1st, R. K. Barker ; 2nd, M. T. Burn.

MAGPIE, RED OR YELLOW.

Cock—1st, G. J. White ; 2nd, G. W. Nahrgang. *Hen*—1st, R. K. Barker ; 2nd, Ottawa Lofts.

MAGPIE, A.O.C.

Cock—1st, G. W. Nahrgang ; 2nd, Ottawa Lofts. *Hen*—1st, G. W. Nahrgang ; 2nd, Ottawa Lofts.

SHOW HOMER.

Cock—1st and 2nd ; *Hen*—1st and 2nd, Bell Currier & Price.

SWALLOW.

Cock—1st, A. W. Barton ; 2nd, C. Massie. *Hen*—1st, A. W. Barton ; 2nd, C. Massie.

DRAGOON.

Cock—1st and 2nd ; *Hen*—1st and 2nd, G. F. White.

ARCHANGEL.

Cock—1st, G. F. White ; 2nd, W. N. Reid. *Hen*—1st, G. F. White ; 2nd, M. T. Burn.

NUN.

Cock—1st, Ottawa Lofts ; 2nd, H. B. Donovan. *Hen*—1st, Ottawa Lofts ; 2nd, C. Massie.

OWL.

Cock—1st, Bell Currier & Price ; 2nd, H. B. Donovan. *Hen*—1st and 2nd, Bell Currier & Price.

TURBIT, BLACK.

Cock—1st, Ottawa Lofts ; 2nd, A. W. Barton. *Hen*—1st, J. H. Baulch ; 2nd, A. W. Barton.

TURBIT, A.O.C.

Cock—1st, H. B. Donovan ; 2nd, Bell Currier & Price. *Hen*—1st, A. W. Barton ; 2nd, H. B. Donovan.

A.O.S. VANITY.

Cock—1st, M. T. Burn ; 2nd, H. B. Donovan. *Hen*—1st, R. K. Barker ; 2nd, H. B. Donovan.

RABBIT LOP, S.C.

Buck—1st and 2nd, Wm. Fox. *Doe*—1st and 2nd, Wm. Fox.

RABBIT LOP, A.O.V.

Buck—1st and 2nd, Wm. Fox. *Doe*—1st and 2nd, Wm. Fox.

RABBIT, DUTCH.

Buck—1st and 2nd, Wm. Fox. *Doe*—1st and 2nd, Wm. Fox.

RABBIT, A.O.V.

Buck—1st and 2nd, F. Cook & Son. *Doe*—1st and 2nd, F. Cook & Son.

BELGIAN HARE.

Buck—1st and 2nd, W. Fox & Son. *Doe*—1st and 2nd, W. Fox & Son.

CANARY, SCOTCH FANCY.

Cock—1st and 2nd, F. W. Hodgkin. *Hen*—1st, H. Sallows ; 2nd, F. W. Hodgkin.
A.O.V. *Cock*—1st, F. W. Hodgkin. *Hen*—1st, F. W. Hodgkin.
Best Collection Canaries, F. W. Hodgkin.

EASTERN ONTARIO LIVE STOCK AND POULTRY SHOW, 1903.

The Eastern Ontario Live Stock and Poultry Show was held for the purpose of gathering together an exhibit of live stock and poultry, from which, by attention being given to the discussions of judges in the rings, and through the lectures being delivered during the show, many lessons may be learned by those in attendance. Specimens of the stock and poultry on exhibition were used to illustrate the different types of animals referred to by the lecturers. The Winter Fair at Guelph, with the same object in view, had been very successful, but owing to the long distance and the expenses in travelling to Guelph from the extreme eastern part of the Province, it was decided to hold this exhibition at Ottawa.

That this exhibition will be of value cannot be doubted. Any gathering together of people with a community of interest is bound to increase the knowledge of each individual through the interchange of ideas. In addition, there are the practical lectures delivered on the subjects of cattle, sheep, swine, and poultry. The speakers are practical men of large experience, who made a special study of the subject on which they lecture. The addresses take the form of object lessons. Impressions received through the eye are easily received, and not readily forgotten. The illustrations were used to show the sort of animal best suited for a particular purpose and the type of animal to be avoided.

The exhibition was under the control of, and the prize list was donated by, the Dominion Cattle, Sheep and Swine Breeders' Associations and the Eastern Ontario Poultry Association. The following donations were made to provide a building and suitable equipment:

City Council of Ottawa	$1,200 00
County Council of Carleton	100 00
W. C. Edwards, M. P., Rockland	100 00
County Council of Leeds and Grenville	80 00
County Council of Renfrew	50 00
County Council of Stormont, Dundas and Glengarry	120 00

Following are some of the addresses delivered at the meetings in connection with this exhibition.

HOW TO BUILD UP A DAIRY HERD AND PROPER TYPE OF THE DAIRY COW.

By Prof. H. H. Dean Ontario Agricultural College, Guelph.

For twelve years I have been paying very close attention to this matter of building up a dairy herd. Speaking from practice, I have been trying to breed for results—I have not been paying very much attention to the form, but laying stress on the performance of each animal, and I know of no way in which a man can build up successfully a dairy herd unless he looks to their capacity to produce milk or butter. I will now show you some of the things I like to see when buying a dairy cow. I should give more for a cow if the owner had kept a record of her performance. We should expect the breeders of pure bred stock to keep a record, so that when we wish to purchase a pure bred male they will be able to tell us something of the dairy qualities of his ancestors, and in the same way we should be able to learn something of her ancestors and their doings when we pur-

chase a dairy cow. The first thing I should look for in the cow is something that would indicate whether the animal has a good constitution or not. What is there about a cow that will indicate to us whether she has a good constitution or not? In this connection we generally look to see whether or not the cow is hollow behind the elbows. Some cows are very hollow in this part. That is a sign of a weak constitution, and that the animal so constructed is liable to disease, and especially to that dreaded disease, tuberculosis; therefore, I should look for a well developed cow, with plenty of room where the lungs and heart are situated, and with plenty of room between the forelegs. We like to see good-sized nostrils, a fair-sized mouth; the skin should be somewhat mellow, and the hair somwhat oily, not hard or dry, because the hair is far from the centres of circulation, and if the vitality be weak in the cow, the skin becomes harsh and the hair dry and hard. These are the principal points concerning the constitution. Some rather lay great stress on the umbilical, or navel attachment. There is a great difference in cows in that respect. The idea is that the young animal when carried by the dam is nourished through that cord, and that through it the dam conveys vitality or constitution to the calf. Supposing we do not know anything by weight and testing, what are the indications of power to produce milk? That is the main thing for which we keep a cow. In my judgment the udder and the parts conected with it are the best guides which a man has who does not know anything about what the cow can actually do, although it is a very easy matter to be mistaken in this. Not all cows that have large udders are good milkers. I prefer a medium-sized udder covered with skin somewhat elastic in quality. I like to see the milk vein well developed. Milk, as we know, is manufactured from blood, but how no one has yet been able to decide. It is supposed to be converted from blood in the udder, thence passing back to the heart and lungs for purification, and returning pure to the glands of the udder, when, in its changed form, it is drawn by the dairyman. Then we like to see the outside of the udder covered with veins, and the teats of good size, placed a good distance apart. Cows with small teats are objectionable, because they are difficult to milk. Some lay a great deal of stress on the milk mirror or milk escutcheon. I do not know that there is a great deal in this. If you were to judge this cow by her milk escutcheon you would possibly think she was a very poor cow; but the owner tells us she is a very good cow. We said milk was manufactured from blood. Where does the blood come from? It comes from the food given to the cow. It is important in our animal that she shall have plenty of room for plenty of food. If you see a cow with a small barrel, you generally have a cow which has not a large udder, and which is not a large producer, though I have seen cows in our own herd that were not large in the barrel, and yet were good producers. But we want plenty of room between the last rib and the hip bone, showing that the animal is capable of taking a proper amount of food. If you find a cow with a good large-sized mouth, good lips, and good barrel, she is generally a cow that consumes a considerable amount of food. How does the blood turn into milk? That is one of the mysteries connected with milk. The manufacture of milk is a mystery. So far no man has yet been able to tell us how this milk is manufactured through the blood; but it is supposed that by the action of nervous energy the cow transforms the blood that comes into the teats, and it becomes milk. Good bright features, a bright, full, intelligent eye, indicate nervous energy; a great development of the backbone generally indicates a great deal of energy being transmitted to the cow's udder, and thence to the milk. In selecting a dairy cow we should try to get a pretty cow, if we can at the

same time be sure she is a good one. In selecting a wife most men try to get a pretty looking one, but they are often mistaken in their choice through taking the pretty face. So with dairy cows; many men follow beauty, and they are often mistaken in the animal. If you can get a pretty or beautiful cow, as well as a useful cow, take her; but never sacrifice the useful cow for the pretty cow. Always place utility before beauty, or dairy form; because from a dairyman's point of view there is nothing much in having simply a pretty cow.

How would I proceed, having selected my cows according to the way I have indicated, to build up my herd? I would presume we are using a pure-bred sire. I would rear all my heifer calves, if possible, and I would cull them after the second lactation period. I do not think a man can intelligently cull out until they have milked for some time; and I would keep them in a thrifty condition, not too fat. If you want to rear good dairy cows it is a mistake to start the young calf on skim milk. It should be whole milk for two or three weeks; then let it have warm sweet skim milk, and dry oats and bran. We have tried many feeds, and I would rather have bran and oats, given dry to the calves as soon as they will take it, than any other food we can give to calves for dairy purposes. It is also well to give clover, or clover, hay, and roots. Get them to drop their first calves when about 2½ years old. Some may milk at two years, others go to three years. Mrs. Howie, before the cheese makers of Wisconsin, recently said it would do a great many men a great deal of good if they would associate for a time with a nice, kind, gentle cow, and she scored men very hard for the cruel way in which they often treat their heifers. An heifer required kind treatment. Milk her for at least ten months for the first milking period, and let her drop her second calf twelve or fifteen months after the first, and if after the second period of lactation she does not milk 6,000 pounds of milk or 250 pounds of butter, I would get rid of her. The man who will proceed on such lines as these will build up a good herd. No man should expect his heifer to come up to 6,000 pounds of milk or 250 pounds of butter if he does not feed her properly. When it is possible I would recommend to feed corn, silage, hay (preferably clover), bran, oats, peas, or oil cake. The ration we are using is about 35 pounds of corn silage, mixed with 8 or 10 pounds of cut clover hay, and 30 pounds mangels. The mangels are pulped, and the corn silage and hay are mixed together in a heap in the afternoon, and we feed that at night and the next morning. On Saturday we put up enough to last over Sunday. We make the cow's food as digestible as possible, and as palatable and pleasant to her taste as we can. The cow likes to feel that her owner is taking some pride in her feed. I think a great deal goes through the mind of a cow, and if she could speak English she would say much to her owner. Proceeding on the lines I have indicated, I believe the dairymen of this country can double the amount of milk they receive from their cows, and what we need most of all in the dairy business of this country is to have better cows, to have them better looked after, better cared for, and so you will have a better dairying trade, and better profits all round. Remember these three words—breed, feed, weed. If you do remember them you will have the substance of what I have said. The man who has not a number of cows every year to weed out is not doing justice to himself and to the dairying business of Canada.

A Farmer: How long would you leave the calf on the cow?

Prof. Dean: I would not, as a rule, advise leaving the calf on the cow longer than twenty-four hours. In case of the udder being very much inflamed, we leave the calf for two or three days, but leaving the calf for five

or six weeks is a sure way to spoil the dairy cow. We practice feeding the calf twice a day. By suckling the calf too long, it is bad for the calf and bad for the dam. After freshening we believe in milking the cow out dry three times a day for the first two or three weeks. When the milk is left in the udder, I fancy she reasons: "I have so much milk ready to take out, but the man does not know enough to take it out; I will not make so much next time." (Laughter.) I think if you leave milk in the udder she will not produce so much milk next time. In cases of a cow that has had milk fever, or that might have milk fever, it might be advisable not to milk her out too dry.

A Farmer: After a cow has dropped a calf, would you milk that cow out clean, or leave some in the udder?

Prof. Dean: Milk her out clean, except in a case of milk fever.

A Farmer: Would you consider a Shorthorn suitable as a dairy cow?

Prof. Dean: There are strains of the Shorthorn that are excellent milkers, and some are excellent dairy cows. The inclination of the breed is, however, to manufacture beef rather than milk. We have in the dairy department of the College representatives of three different breeds, and you will see most of our cows are Holsteins and Holstein grades; and we have found that good cows are more common amongst Holsteins. There are good cows in all breeds.

A Farmer: Do you consider a Holstein a better general purpose cow on the whole than Ayrshires? Do you not think that on the whole the Ayrshire cow is equally as good as the Holstein for general purposes as a dairy cow?

Prof. Dean: Yes, if the farmer is a Scotchman. (Laughter.)

A Farmer: What others have you?

Prof. Dean: Holsteins, Jerseys, and Ayrshires. The question as to which is the best breed of dairy cow is one of those that cannot be settled. There is no best breed of dairy cows. We give you our experience, but yours may not be the same as ours. A man should select the breed that will best suit his purpose. A man should study his conditions—what he wants his herd for. He should lay plans as if he were going to put up a building. He should study the characteristics of the different breeds, and then he should get the breed he thinks will best serve his ends and interests.

Prof. Dean, in reply to further questions, said: The dairyman should keep the dairy qualities in mind, and not consider so much the beefing characteristics. Large milkers are always the more likely cows to have milk fever. Poor milkers do not often have it.

A Farmer: At the College, do you keep an account of all the food fed, and what it costs?

Prof. Dean: Yes; and I have come to the general conclusion that if you wish to produce milk or butter you must give good cows about the same amount of concentrated foods; the difference is in the cheaper foods. The largest producers of butter and milk are the most economical producers. The time has come when the dairymen of this country should start in with their individual cows, and find what each cow in the herd is doing. It is the only way.

A Farmer: In the matter of breed, Prof. Dean has evidently not been in a position to inform us which is the best breed in the herd they have at the farm, either for dairying or beef purposes. I had the pleasure of looking through the Guelph farm this winter, and I came to the conclusion there was not a single Ayrshire there that would take a prize in the prize ring; therefore, Prof. Dean is not able to compare the value of the Ayrshire with the Holstein.

Mr. L. Wilson: There seems to be a tendency in this eastern country, where we are cut out for dairying, to introduce beefing breeds. Before five years go over your heads, men who are changing dairy herds into beef herds will regret it. Our grass lands are well fitted for our dairy cattle. I believe there are sections in this country where beef cattle can be raised; but remember, there is the great Northwest, with its millions of acres of land, worth about $2 or $3 per acre, for breeding and feeding, and we cannot hope to compete with those beef breeders of the Northwest. The men who are putting both breeds in this eastern country districts are making a great mistake. We have been told that rich milk is necessary to make good cheese. We were told the Babcock test would be the test for milk, and men who have been breeding cattle know that Ayrshire cattle, cow for cow, give a better percentage of butter fat than the Holstein; and you can feed an Ayrshire cheaper than you can the Holstein. I am a small breeder of Ayrshires. I am sorry there should be a distinction drawn, and that the Professor should say Holsteins were better than Ayrshires, because Ayrshires have been shown for centuries to be the best breed.

Prof. Dean: I did not say Holsteins were better than Ayrshires.

Mr. Reid (President of the Ottawa Board of Trade): The Professor said that was his experience.

Mr. Wilson: Well, he is an experienced man, experimenting with our money.

Prof. Dean: It is not only the test, but the quality of milk, which has to be taken into account. A cow that gives 3,000 pounds, testing six per cent. fat, will have the same amount of butter fat as the cow giving 6,000 pounds of milk testing three per cent. of fat. It is, therefore, the quantity of milk given, as well as the quality, that determines the value of the cow.

Mr. Wilson: What about the feed?

Prof. Dean: This, too, must be considered. I should be sorry, indeed, if you had the idea that I was running down Ayrshires. They are an excellent breed, and have done wonders for the dairymen of Scotland and for the dairymen of Canada. But they have some very serious faults which the breeders of them know as well, if not better, than I do. A man should select the cows which he thinks will best suit his purpose. If he thinks Ayrshires will best suit his purpose, he is a fool if he takes Holsteins, or any other sort but Ayrshires.

Mr. D. Derbyshire, Brockville: I live in a town where Mrs. Jones lives, and she would look on you with scorn if you did not believe in Jerseys, because she believes they make more butter with less feed than any other animal. And she gets the best of her particular breed. If you are a Holstein man, get the best you can, and breed for the best quality of milk. Get Ayrshires if you believe in them, but make them the best you can. Make them worthy of the Scotland we all love so much, and which not only produces the best cattle, but the best men. We want the best of everything we can get in this country. In Eastern Ontario we are the leaders in fancy cheese and butter, and we are going to lead.

THE PATRON'S RESPONSIBILITY.

By J. A. Ruddick, Chief of the Dairy Division of the Dominion Department of Agriculture, Ottawa.

I have been listening with a good deal of interest to the excellent address of Prof. Dean, and the discussion which followed. It has been stated that rich milk is required to make good cheese. I would take exception to that statement to some extent. Rich milk does not make much difference in the quality, but it makes more cheese. Nearly as good cheese may be made with 3 per cent. milk as with milk showing 4½ per cent. of fat; but the 4½ per cent. milk makes much more cheese. If that were not so, it would not be fair to pay for milk at a cheese factory according to the Babcock test.

I should like to speak for a short time to-night on some of the signs of the times in dairying, as a subject suitable for this audience. With a pretty good knowledge of the conditions that prevail all over Canada where dairying is practiced, I find there is a tendency to multiply factories, and to build small factories—to build two or three factories where one would do the work. There are places throughout Eastern Ontario and in Quebec where there are three, or even four, small factories within sight of each other. While factories are being multiplied, there is a tendency to reduce the price of manufacture, although the actual cost of manufacturing is increasing. I am not here to speak in the interests of the manufacturer alone, but on behalf of the industry at large. I do not say good work cannot be done in a small factory; but there are some bad features in the multiplication of factories. While the factories have been growing smaller, the price of manufacturing has been reduced, until at the present time, in many cases, the price manufacturers receive is not sufficient in these small factories to enable them to provide proper equipment and pay wages that ought to be paid to secure first-class cheese makers. As a result of thus reducing the profits of manufacture, we have throughout this country too many factories that are only make-shifts. When a man has to make cheese at 1 cent or 1¼ cents per pound, he cannot afford to put in a proper equipment to do first-class work. Anyone who is at all acquainted with the conditions that exist in Eastern Ontario must recognize that a great many of the factories are a disgrace to the industry we are connected with. But the man who owns the factory should not be blamed too much for this condition of things, because under the present system he is hardly able to avoid it. Two or three years ago I had an opportunity of seeing something of dairying in other parts of the world. I spent a year and a half in New Zealand, and while the New Zealand farmer could learn much from us regarding the production of milk, in the matter of factory buildings the New Zealanders, who have only been in the business about ten years, are far ahead of us, who have been at it for nearly forty years. When they build a factory they try to make it of the very best construction, and then equip it with the most efficient and up-to-date machinery. They encourage the building of large factories, and instead of factories being multiplied, they are being reduced, because they find it more profitable to combine the small factories into larger ones. The department with which I am connected is operating a number of creameries in the Northwest Territories. In 1899 a certain creamery made about 35,000 pounds of butter, and there was a deficit of over $500 on the manufacturing at 4 cents per pound. The next year the output was 65,325 pounds, giving a surplus of over $564. In 1901 the out-

put was 121,419 pounds, giving a surplus on the manufacturing account of $1,549. It took very little more labor or fuel to make the extra amount of butter in 1901. The same labor manufactured almost twice as much butter, and the actual cost of making up the increase was only a little over 1 cent per pound. If the manufacturer makes a good profit he is in a better position to improve his factories, and to give a better service for his commission. A great many patrons seem to think their responsibility ceases when they deliver the milk at the factory. I believe that this attitude is responsible for a great many difficulties in which our cheese and butter makers at the present time find themselves. If patrons only realized that they have an interest in the cheese and butter until is finally reaches the consumer, they would give more attention to these matters. They fail to realize that every day they are losing hundreds of dollars by some patrons delivering milk that has not been properly taken care of. It would put the factories in a better position if the patrons would pay more attention to the milk supply, and they might do much to prevent this competition in factories by discouraging the receiving of inferior milk. It often happens that a maker receives milk that he should not receive, simply because he believes if he refuses the milk it will be taken to a neighboring factory. If patrons did their duty to themselves, they would no more allow a man to take such milk to their factory than they would allow a man to enter their premises whom they knew to be suffering from some infectious disease. The cheese and butter belongs to the patron in most instances until it is sold, and they should not lose sight of this fact. Patrons are too prone to think that when they have delivered the milk at the factory their responsibility has ceased. That is not a business-like view of the matter. As regards the manufacturing, it is well known that the cost of material, of labor, and of fuel has advanced along with the general advance of prices. It costs more to make a pound of cheese to-day than it did five years ago; and if we wish to get the same service as we have in the past, we should be willing to pay more for it. The patrons should pay a fair price for manufacturing, and demand better service in return. There is room for vast improvement, but I do not see how the improvement is to come unless the patrons will assist by paying a share of the cost. During the past year the Department established four central cool cheese curing-rooms, where the cheese are brought in from neighboring factories and cured at a temperature of from 58 to 60 degrees. We do not advocate a general adoption of this plan. That was not the object of the Department. They were put up simply to illustrate in a large way the advantages and benefits of the cool curing of cheese, and to get as many people as possible directly interested in the results. We find by curing the cheese at a temperature of 56 degrees, as compared with the curing in an ordinary room, there is a saving of 1½ per cent. in shrinkage alone. But that is a minor point. The cheese are very much improved in quality. You may ask: Did this cheese sell for more money? Yes, but not for the advance they are really worth, because buyers are not able to pay 1 cent per pound more until they can sell them for that much extra. The cheese must prove themselves on the market. Last season was the coolest season that we have had since cheese making began in this country, so that the cheese were cured at a lower temperature all over the country; they were all of better quality than before. The cheese went off rapidly, prices went up, and there is no doubt the farmers of Canada have received two millions of dollars more this year on account of the temperate conditions that prevailed. Now, if we had cool curing rooms for all cheese, there would be such a development in the cheese business as we can

hardly appreciate; but this will never come in proprietory factories until the patrons come to recognize they must assist in meeting the cost of improvements, of which they are to derive all the benefit. Now, just a word or two about the cheese maker. I believe the Canadian cheese maker is the poorest paid man in this country. I do not think there is any class of men who have to bring such skill to bear on their work who are paid so badly. I began as a cheese-maker myself, and I sympathize with them. It is a shame that the men who have done the most to build up the Canadian cheese industry should be paid the poor wages they are receiving to-day. Some cheese-makers are given as little as $30 per month for only about six months during the summer, and there is not much for them to do in the winter. That is practically all they earn in a year. No business deserves to succeed that pays its skilled labor such small wages as the cheese-makers receive. Unless we pay our cheese-makers better, and thus secure a better class of men, we cannot expect to get the best results. Every year some of the best men are forced out of the trade, disgusted with it. Out west recently I met three young men who were formerly cheese-makers in Eastern Ontario. They had stood at the very top, and yet had gone west to look for some kind of work. No business can succeed that forces its best men out in this way. I think I know what I am talking about when I speak of these things, and I believe there is nothing which threatens the future of the cheese industry more than what I have just alluded to. Surely the patrons have a responsibility in this matter. Patrons have the right to know that a first-class man is employed, and it is their business to see that he is properly paid. I know the difficulties that have to be contended with. But we must have some ideal in this matter, and strive to reach it, or we shall never make any progress or improvement. At many factories the whey tank is not cleaned out from one season's end to the other. The patron consults his own interest when he insists that the whey tanks be kept clean. It would be better if none of the whey were carted back in the cans, but if it must be sent back, let us keep it in a sanitary way. I was called to a factory not many miles from here to see if I could detect the cause of some trouble with the flavor of the cheese. When I arrived at the factory I found there was no proper drainage; everything that came on the open floors ran through to the ground beneath, and in a short time a very putrid mass occupied the space under the factory. After looking around I enquired where the whey tank was. It was upstairs in the factory. I asked the man if it was clean. "I think so," he replied. We went up, and found the tank a mass of mould and putrefaction; it had not been cleaned out all summer, and no doubt this mould was carted away in the cans, and returned to the factory in the milk, and so afforded a very reasonable cause of the trouble in the cheese. It depends upon agreement as to who is responsible for the whey tank. If the maker is responsible, in such a case he has no right to complain. It is the business of the patrons to see that they have a maker who attends to these matters. There is another point which probably does not appear to be connected with the dairy industry, but I am pleased to say it is being agitated in this country. I believe that if there is one thing more than another that would put the cheese factory and the dairying industry on a better footing it is improved condition of the roads. Many factories are built owing to the difficulty of hauling the milk. (Hear, hear.) There certainly is no class of persons more interested in the good roads question than the patrons. The factory owners, and everyone interested in seeing the dairy industry improved and built up, should be interested in this question of good roads. We shall in some districts always have

small factories, until we can have better roads to reach the factories.

A Farmer: What would a rusty milk can do?

Mr. Ruddick: A rusty can imparts a bad flavor to milk. There is nothing inherent in the cream gathering system to prevent good butter from being made. Cream must be delivered in a sweet condition to the creameries. I believe every patron's cream should be sent to the creamery in an individual can, so that the receiver can refuse that which is not in good condition.

Mr. Derbyshire: The money we got this year (twenty millions of dollars) is the thing that makes every spindle in our factories hum, and every place in our country successful.

A Farmer: Mr. Ruddick said 3 per cent. milk will make as good quality of cheese as 4½ per cent. milk. That has been upsetting some of our authorities.

Mr. Ruddick: What I stated is this: It does not follow that because milk is rich in fat that it will make much richer cheese than milk not so rich. The statement I made was that you would make more cheese from the richer than from the poorer milk. I would undertake to make as good cheese from milk that tested 3 per cent. of fat as from milk that tested 4½ per cent. of fat; but I would produce more cheese from the latter than from the former. There is considerable milk delivered at the cheese factory that only tests 3 per cent. of fat.

The convention then adjourned until the following morning.

THE BACON HOG ILLUSTRATED BY LIVING SPECIMENS.

By J. E. Brethour, Burford.

I will endeavor to illustrate in as short a time as possible my views of the bacon hog, and in doing so I have selected some specimens—practically they are all of one breed—and will try to make comparisons of the different animals by showing their bad as well as their good qualities.

Here we have not really any bad specimens to clearly demonstrate what we want to get away from. I first draw attention to one as a perfect specimen of the pig suitable for the present market. Why is that animal suitable for the present market? An animal to answer the requirements of the English trade must possess that which the market demands—that is, a large amount of lean meat, or a muscular body. You will notice in this one that the head is not heavy. The head is, of course, important from a breeder's standpoint. It is not necessary to have a very large head in order to have a desirable animal. The nose or muzzle should not be too broad, and the face should be just slightly dished, not the old-fashioned pug-nose we have been used to in the Yorkshires.

The jaw should be well covered with firm flesh or muscle, not saggy or loose. Hogs with very light jaws are not usually good feeders. Do not go away with the idea that when I say they should have a good jaw that they should have a heavy one; it wants to be a medium, strong and muscular, without flabbiness or looseness. There should be a fair width between the eyes, with a good strong skull, which would indicate good brain power and also intelligence—because you have intelligence in a pig as you have it in a man—so that they can feed properly and be docile in disposition. From the poll to the shoulder should not be too long. The shoulder should be smooth

and well covered. You do not want too long a shoulder blade, nor showing too much width in front. The animal should be smooth on the back, without any undue prominences. Too small a shoulder would indicate a weakness in that part of the animal. The shoulder being smooth, should be evenly covered with flesh, and back of the shoulders the ribs should be well sprung and nicely covered with flesh that is firm to the touch, the back fairly square, dropping down flat on the sides. If you get an animal with a ridge along the back, and cutting immediately away, you do not get flesh where you need it — that is what we call the "razor back." Coming to the loin, it should be slightly arched and muscular. A good loin in a pig is desirable. In the first place, to have a good pig, that is, one of a strong body, if the loin is weak it is like the chain with one weak link, the whole construction is weak. The loin is the most important part of the pig, barring the lung capacity or chest. The ribs are very well sprung from the back in one of these pigs, smooth and even. When I mention that the side should drop well down, flattish and smooth, that will usually show a good distribution of fat and lean meat throughout the whole body. When you get this flattish appearance on the side you will generally get a lot of muscle or lean flesh. The rump should be slightly drooping, without any undue fleshiness at the tail head, and without showing the least flabbiness on the outside of the ham. The flesh on the leg should taper off nicely towards the hock, and the flesh should be well distributed round the whole of the gammon on all sides. If you get a good full ham, which we used to call a desirable ham, there was a lot of fat on the outside. When aiming for the export trade we want a lean ham covered well round the bone. As to the bone—the bone usually indicates the quality of the animal. If you have a large, round, soft bone you have an animal possessing coarse quality of flesh, and badly distributed throughout the whole body. On the other hand, if you have a good, hard, smooth, yet flat, bone, you have a good animal all round. The legs should be placed fairly well to the outside of the body, but straight under it, both from a rear view and a side view. The feet should be well on the pastern, for if the animal be down on the pastern it shows weakness. If an animal has limbs that are not strong it does not take exercise that it would if it had a perfect strong, good, hard quality of bone, and not taking exercise, it will not have a healthy body, as it is absolutely necessary that pigs should take enough exercise to keep themselves in a good vigorous condition. As to the defects in this animal, while the leg is long and tapering, the shank has rather too much length, which gives an undue amount of bone, and is undesirable for strength, as well as being objectionable from a breeder's or feeder's standpoint. It is also waste, because it is not wanted in the construction of an animal. Another point is that in calculating the length of an animal you want the length to start from just behind the shoulder to the rump. It does not add anything to the animal's value if it is long from the shoulder forward.

There is a tendency at the present time to go in for extreme length, and I would condemn that tendency because it is an indication of slow maturing and slow feeding qualities. Why do I object to an animal long in the side? Because you will usually find animals like that are thin and weak in back. This one has not quite enough flesh on the back, and is slightly tucked up in the flank. Animals of that kind are generally slow in maturing. An animal fit for the market should weigh from 160 to 200 lbs. If you wanted to get the perfect finish on a pig of this kind you might often have them weighing 260 lbs. before they are fitted for the market. Here is a long fleshy animal, but he has very little high-priced meat on his

body; in fact, he is no more valuable than the other animal that has 50 lbs. less weight.

I would also draw your attention to the quality of the ears. I think the ideal style of an ear is one not too large, and yet a good size; not coarse, that is fairly thin and quick playing, but not a flapping ear like a palm-leaf fan. As to the hair, it should be abundant, fine in quality, not bristly, for when hogs possess bristles it is an indication of a harsh, coarse feeder, and this is undesirable from a feeder's standpoint. Perhaps there are some points in regard to these animals as brood sows to which I may refer, and this is a point you must take up. Some have a desire to secure sows that have as many teats as they can get on them—15 or 16. I believe that is a mistake. A sow that carries 11 or 13 teats is better, because those carrying 15 or 16 produce too large litters, which they support very inadequately, whereas the others, having smaller and more uniform litters, bring on their young more vigorously, and the latter are worth much at four or five months of age. It is very objectionable for sows to produce more pigs than they can properly support.

I do not think there is anything to be gained, from the feeder's standpoint, by developing from behind the shoulder forward. Such pigs are slow in maturing, and you never get the full amount of muscle in the body that is absolutely necessary. The loin brings more money in the English market than any other part of the animal. Putting your hands on the back of the animal, it should be firm, with a good deal of resistance in it, showing there is muscle beneath.

The President: Is not a desirable side a deep side?

Mr. Brethour: No. Too much depth gives a large percentage of belly meat. A flat side, of medium depth, with plenty of room for the animal's vital organs; you may then leave the stomach to itself, for that will be large enough to give the animal all that it requires for its sustenance. You do not want thinness at the flanks; you want a good flank in a hog as you do in a bullock, because it shows the lean meat is well distributed throughout the whole body, as well as giving an even thickness of side.

A Visitor: How can a farmer tell when a pig is matured and ready for the market?

Mr. Brethour: In the first place, an animal to be well matured for the market should show that it is pretty well filled all along the back—not wide and very fat, but well filled lean—and when the animal comes to about 200 lbs. weight, it is ready for the market, for that is the desirable weight; but, of course, the farmer will have to govern himself somewhat on the type of pig he has, as to when it is ready for the market. If one pig were killed at the same time as another, perhaps the meat of one would be hard, while the other would be all that was desired. We have all heard complaints about hard bacon, and I believe it is brought about by farmers selling off pigs before they are finished. If you take an animal with a wrong formation, and hold it back till it gets to the right weight, and the appearance of the body to the right style, that pig will give hard flesh, because it has not a properly fleshed body. I believe the short-bodied animals, that are fed very little grain, the pig maturing too slowly, and the holding back lest they get too fat, are the chief causes of hard bacon.

A Farmer: What is the cause of soft bacon.

Mr. Brethour—I believe it is brought about by animals not being properly fed, that are in an unhealthy condition. There are certain seasons of the year, in the spring, in May and June, when a number of pigs are marketed, which turn out soft. The reason is they have been kept in an unthrifty con-

dition during the winter, and in the spring, or as soon as they get large enough, they are sold to the packers, but they never make a good carcass. It is not a good plan to keep them too long in what is known as "store" condition.

A Farmer: In producing the ideal type, is it necessary to give more attention to the made or the female?

Mr. Brethour: I should say the male is certainly more important than the female.

A Farmer: Provided you have two animals of the desirable type, what is the percentage of perfect animals you ought to get?

Mr. Brethour: Ninety per cent. If I had an undesirable type of pigs, and wanted to evolutionize them, I would make the change slowly, to get the style of pig I desired. I should want the desirable male well matured before I would use him for breeding. A sow should not farrow before she is 12 or 14 months old, and the male should be well grown and cared for before mating.

A Farmer: Do you advocate warm quarters for pigs?

Mr. Brethour: Yes, if you can keep the sanitary conditions good. I would otherwise rather have a cold building, with proper ventilation, but free from draught. I do not believe in putting them in a building in which they are kept warm by their own breath, as this would cause dampness. In feeding, it is necessary to give roots in winter. When animals are having plenty of exercise they can consume much more grain.

In reply to the President, Mr. Brethour said: I consider it desirable that pigs should stand up well on their legs, and that the hoof should not spread or be sprawly. They should stand perfectly square on their feet.

SUGGESTIONS AS TO HOW THE PORK PACKER AND BREEDER CAN CO-OPERATE IN EXTENDING THE BACON TRADE.

By Prof. G. E. Day, Ontario Agricultural College, Guelph.

This question of co-operation is, after all, something that has to be worked out very largely between the packers and the farmers. Unfortunately, I am not able to put myself in the position of the packer; but I think I know something of the difficulties he has to face, though I cannot exactly say what he can do to remedy them. I know the packer is anxious that the type of hogs shall be changed, and he is willing to pay money, and to go to a great deal of trouble if he can bring that about. But there are many difficulties in the way, and a certain packing house I know of started on the plan of sending out their own buyers, and they succeeded in losing $26,000 or $30,000 in that year. It is not all plain sailing. We may say to the packers, "You will have to pay a better price for good hogs," but if you have 15 or 16 hogs in the pen, and a man comes round and wants to cut the price on the undesirable ones, and pay more for the good ones, the chances are you will object very strongly, and insist upon the same price all round. While it is true the packer should pay a higher price for good hogs, if he wants them, there are difficulties in the way, but I believe the time will come when this matter can be handled in a more intelligent way. But there must be a better understanding between the packer and the feeder, and the latter must not think he is going to be robbed, but must be willing to co-operate with the packer; and if he be willing to do this, he will find the packer willing to co-operate with him; but so long as he holds aloof in suspicion from the packer, and is going to grow the hog he likes, and

"the packer be hanged," the difficulty will not be overcome. We must first have correct breeding, and then correct feeding. Feeding can influence or modify the character of the animal, but if he is not bred right, he cannot be fed to produce first-class sides. Here we have an illustration of it. Here is a number one side. Will anyone say that that side is as good as this other one?

Hon. Mr. Dryden: The packer says it is not.

Prof. Day: Will anyone here say that that side is as good as the other one, and yet each is a "No. 1?" Though you may have the hogs graded No. 1, it does not follow that the packer will be able to make the best of it There are degrees of No. 1, and it bears out the statement that the animal must be bred right to begin with before he can be fed right to produce the right result. You say that it is all a matter of feeding; that you can make a No. 1 of any hog. But look on this No. 1, and then on this. When this second one is going to the Old Country as a No. 1, how are we going to stand in that market? The packers' interests and the farmers' interests are pretty much the same in this matter, and they are equally interested in maintaining this trade. (Mr. Matthews: Hear, hear.) If the farmer does not do his end, the packer cannot accomplish his end, and the result is going to be the lowering of prices all round. Judging from my experience, I do not think the packers are making such a lot of money this last year or two.

Hon. Mr. Dryden: We are not going to ask you to make an affidavit.

Prof. Day: In the scramble after hogs, prices have been unduly advanced in some of the inferior breeds. It is only a few years ago this Wiltshire bacon trade was started in Ontario.

Mr. Matthews: Eight or ten years.

Prof. Day: Yes; and I believe we made more progress in the first four or five years than during the last few years. I do not think the bacon has made as much progress as we expected. My colleague, Mr. Cummings, was in London last year, and he was told, "You Canadians must waken up, or you will be nowhere in the bacon market." I am extremely pleased these sides are on the platform, because it shows what a difference there may be in No. 1 sides.

Hon. Mr. Dryden: I want these farmers to be educated to look out for themselves, so that they can keep the best they require.

Prof. Day: I am at a loss to suggest what should be done. Some packers have gone so far as to purchase animals, particularly some of the improved bacon breeds, and distribute them throughout the country to improve the breeds. That was done in Western Ontario. The breeders have improved on what was first bred, and I think that that was what brought about an improvement in the beginning. I do not think it would be well for the Government to begin to buy animals and put them into competition against men that have put money and brains into the work. I believe the beginning must be with the farmer and the breeder, and when we remember it does not cost any more to feed a good bacon hog than to rear a poor one, it seems to me the great weight of responsibility is on the farmer after after all. Still I should like the packers to get their heads together and make an earnest effort to see if there is no way to control the buyers, because if the hogs could be bought on their merits in the farmers' yards, it would tend to improve the matter.

Mr. Matthews: Years ago, before certain co-operative houses existed, it was a well understood plan to buy the hogs from the drover. He selected them. With the new houses, which I need not name, springing up, men had

to buy at the station. Now the fat is in the fire, we buy them from all over the country.

Hon. Mr. Dryden : I know how it affects me. I am trying to mend this thing all the time. There are twelve of thirteen pigs ready for market, and I have a lump sum offerd. I say to myslf, It does not make any difference. I try to fight against the thought. We have to fight against that problem, but so long as that short pig will bring just as much money as the long one, a man will not be very particular whether he has a short or a long hog.

A Farmer : I have had men say to me (I have bred Chester Whites, and have returned to Yorkshires) that I should go back to short pigs, because I can get more money for them than for long ones.

Prof. Day : I want you to look once more at these two No. 1 sides, and then go home and think the matter over, and ask your-elves whether feed is everything in producing No. 1 Wiltshire sides.

HOW TO SELECT, BREED, CARE, AND FEED FOR THE PRODUCTION OF BACON HOGS.

By Prof. G. E. Day, Ontario Agricultural College, Guelph.

I would like to say, to start with, that we frequently hear an objection to the bacon hog as such—that is, to the practice of breeding this style of hog. People sometimes ask us what is the use of breeding that type ? Why not breed a thicker type ? To-day we are advocating the bacon type to keep out of competition with our American cousins as much as possible. The Americans have a large home market for lard and artificial butter, which are manufactured from the excessive fat of the fat type of hog. The Canadians have only a limited home market for lard, and no market for artificial butter. Add to this the fact that Americans have cheaper foods, and foods specially adapted to producing the fat hog, and it can be readily understood why we should avoid American competition. To keep out of competition with them, therefore, we produce what we call Wiltshire sides, or what is known as the bacon hog. We are forced to produce this type of hog or go out of the hog business. We know to-day that our chief competitors in the British market are Denmark and Ireland. The Danish sides stand very high in the estimation of the British consumer, and if the Canadian product is to hold its own, and especially if it is to gain ground there, it is high time we paid attention to the quality of the product we send there. A good deal of fault has been found with Canadian bacon, and a great deal of that is due not only to the fattening of the hog, but because we send to our factories too many mixed sorts, rendering it impossible to get a proper selection. Therefore, we shall promote our own interests by producing a uniform type of hog to suit these markets. It is not the packer we are spiting when we produce bad quality, but it is coming back upon us, because, if we get an advantage over the packer to-day, he will get back at us by paying a lower price in the future. I presume I shall be asked what is the best breed of hogs for this purpose ? I have been asked that question a good many times. We have done a little work at the Ontario Agricultural College along the line of comparing breeds as to their suitability for the export trade ; and while it is true that first-class bacon hogs are found in practically all breeds, we have found the larger percentage of good bacon hogs among pure bred Yorkshires and Tamworths. In stating that fact, I would not say there is not a place for the other breeds, because we find excellent hogs from those

breeds when crossed, and where Berkshires, Chester Whites, etc., are bred carefully and selected carefully, we find many capital hogs among them ; but it requires more skill to produce a bacon hog from those breeds than from Yorkshires and Tamworths. One of the great objections to this bacon hog is the common belief that it costs more to produce than it does to produce a fatter type of hog. Unless you use the scales on the hogs you are feeding, and on the food they consume, you are liable to make very serious mistakes. Our experiments indicate that it does not matter what breed you are feeding, so far as economy of gain is concerned ; it depends more on the individual than on the breed. I have never seen anyone able to prove that it need cost one cent more to produce 100 pounds of bacon from a suitable hog than from an unsuitable one. For my part, I would far sooner take a first-class type of bacon hog for an economical producer than a thick, fat type. A bacon hog will grow. He is not making a splutter about it, but he grows, and he weighs like lead. Our bacon hogs weigh better than they look, and that is what deceives people. If farmers would use their scales upon the hogs and upon the food consumed, they would find many points cleared up that they did not know before. As to the question of selection, we have here a sow that comes very near to being an ideal brood sow in many respects. She has about the right quality and quantity of bone—very strong bone, without being coarse and puffy—a clear cut bone, without being too large. I have no use for a pig that goes down on its pasterns. It looks like a small point, but I regard it as an exceedingly important point. The boar should carry more bone than the sow, but it is no use having large, coarse, puffy bones. I agree with Mr. Brethour that many breeders are making a mistake in breeding for extreme length, for, when you go beyond a certain length, you are sure to get a lack of strength and muscular development of the back. You can have a hog that makes a more valuable carcass that does not possess that extreme length. On the other hand, we must not go to the other extreme and get an animal too short ; there is a happy medium, which we must learn from experience. The question of age at which to kill is one largely dependent on the individuality of your hogs. I have had hogs you could not hold back until they were more than six months old. I have had some 200 pounds and up to 240 pounds weight when they were only six months old. Others we have had to keep seven and eight months to get the same weight. A pig that grows rapidly, and forms bone and muscle rapidly, will have as good muscle at six months old as another at eight or nine months old. Then there is the question of keeping a pig very fat by keeping him indoors. This is to be deprecated.

Something was said about soft bacon. Regarding that, I presume every one knows what it means, though some believe it means fat bacon. Take a pig like this one, and it is much more likely to be soft than that which is very fat. There is about the same difference between firm bacon and soft bacon that there is between firm butter and soft butter. When a side is extremely soft, it is more objectionable than when it is too fat, because the fat side can be handled in some way ; it can go to some market ; but that which is soft is not suitable for anything. A well-finished pig is much more likely to be firm than one that is not. If you take a pig and feed him on one kind of grain right along, and give him practically no variety in his feed, the chances are you are going to have soft bacon. If you give a pig variety in his feed, green food in summer along with his other feed, or in winter a few roots along with his grain, and give him a variety of grain, you will find most of the sides will be firm ; whereas those that are restricted to a

meal ration are likely to produce bacon that is soft, or tender. Skim milk is one of the very best foods for producing firm bacon. That is why the Danes, who are such excellent dairymen, are enabled to produce such excellent bacon ; therefore, this matter is of especial interest to those persons residing in dairying districts. We have summed up here the main rules for producing good bacon. Anyone can feed an animal with such foods as have been described, and get good results. A pig may be in a growing condition without being fat, and if he is then finished off rapidly, so much the better.

A Farmer : Is it possible, with any degree of certainty from the living animal, to know whether the bacon will be soft or firm ?

Prof. Day : Not always, but you can form a pretty shrewd idea. You cannot tell by the look of the animal, but a good idea can be obtained by handling it carefully. If it has an exceedingly firm handling back, without being thin, it will likely produce firm bacon. The finished pig must be well finished, so that on the back you cannot touch bone, which you can in an unfinished animal. The pig may be heavy enough but not fat enough. He may possibly weigh over 200 pounds and yet be too thin, and a hog that is too thin is almost sure to be soft. If the back handles soft and flabby, it indicates a likelihood of softness.

A Farmer : What do you mean by hardness ?

Prof. Day : Hardness means hardness of the lean meat when you come to eat it. It lacks flavor also.

A Farmer : Would soft bacon be hard ?

Prof. Day : It might when cooked, because the animal, not being well finished, the lean meat will not be of good quality. If the pig had a hard time in winter, and was getting old when finished, though I do not know it by actual experiments, I think it would likely make the lean meat hard. We have received more economical gains from those pigs that had reasonable exercise, being confined in a somewhat limited space, than from those running loose in pastures. Especially is that true of Yorkshires and Tamworths. They are more active than Berkshires. They are too active, in fact, and take too much exercise very often. A Berkshire requires more exercise than a Yorkshire or a Tamworth. They are less active pigs, and unless you can give them plenty of exercise there is difficulty in breeding them, because they are inclined to get rather fat. Skim milk and middlings are good food for little pigs, but the middlings should be cooked if skim milk is not available, to prevent indigestion. This is for young pigs, and when they get a little older I like to mix barley with the middlings, and sometimes a few oats. If the barley is scarce, wheat, oats, and middlings make a very good mixture. We sometimes give the food dry, especially in cold weather, but I cannot say that we have found very much difference between feeding dry and wet. In the warmer weather, when the pigs require a great deal to drink, cold water will do very well ; but in cold weather a person should take care he does not give them too much water.

A Farmer : What about feeding with oilcake ?

Prof. Day : Oilcake would be all right if you can get them to eat it ; I have never been able to get them to eat it satisfactorily. I intend to experiment with blood meal, which is very rich in protein. It is sold for fertilizer in this country, though the Chicago men are selling it for food. Potatoes have to be cooked to get pigs to eat them, and turnips might be fed cooked. I do not know that it is necessary to feed them cooked.

A Farmer : What about rape ?

Prof. Day : I have used rape with very good results ; all the pigs fed

with it turned out first-class as regards firmness of bacon. They get a mixture of grains, the predominating grain being barley, though sometimes there was a little wheat and oats. The meal was mixed with about one-quarter of its weight of wheat middlings.

A Farmer: What about cornmeal?

Prof. Day: Cornmeal I regard as a little dangerous. Perhaps a limited amount could be used, but it must be used with a great deal of care.

A Farmer: What about the packer?

Prof. Day: I am not here to find fault with anyone, either the farmer or the packer. I am an independent observer from the outside, and I can see the packer has a good many difficulties to encounter, one of the troubles during the past few years being extreme competition, as there were not enough animals to go round, and I do not know how all the difficulties are to be overcome. It is unfortunate that more discrimination against undesirable hogs is not made, but I believe the time is coming when that difficulty will be largely remedied. I do not know when, but I think the time is coming when the man who produces a first-class product will receive a premium. It does not cost him more to produce it than to produce a worthless animal; but it requires more skill in selection, and he should be paid for it. How we are going to work that out I do not know.

A Farmer: Would you feed rape outside or inside?

Prof. Day: I would rather feed rape inside, if I could do it. I have seen limbs swell up when pastured on rape, and the skin become blistered and discolored, but I never knew any trouble when the rape was fed inside.

A Farmer: What is the value of whey as a feed for pigs?

Prof. Day: I have not had such experience as you have had in this matter. To moisten meal it has a value, but where it is fed in quantities, its value is somewhat problematical. I have had as high a value as 100 pounds of whey being equal to 8 or 10 pounds of meal. At other times I did not such results. Whey requires a great deal of care in feeding. I have had pigs go off their feed when feeding whey. I have fed sweet whey and sour whey; but I could not see any difference, or, at any rate, not much difference.

A Farmer: Should grain be fed ground?

Prof. Day: It would pay well to grind the grain, especially oats—the finer the better. If you feed ground peas alone, you will have sick pigs, especially young pigs. When we feed pigs with dry peas we get good bacon, but it is too expensive. If you grind the peas you should mix them with oats or barley. We use more oats than bran. If I had to feed one grain singly, I should choose barley.

A Farmer: Why?

Prof. Day: Because I have had more satisfactory results than from any other single grain; but a mixture of grains is better.

A Farmer: What about rye?

Prof. Day: I have not fed much rye. Rye has a feeding value very much like wheat.

Mr. Clark: Does it depend more on the feeding or the breeding to secure fit hogs for the bacon trade?

Prof. Day: It depends on both; but I think we must breed first. You can spoil a good pig, and you can influence the individuality of an animal, but you cannot overcome it. The animal must be bred right, and then it must be fed right.

Mr. Clark: Just so. I believe the greatest care should be taken in feeding. Where the farmer uses his best judgment is in not selling a hog

except at 160 or 140 pounds; beyond that weight they get less prices for their animals. Next year I will have some Chesters here.

THE SORT OF CARCASSES REQUIRED TO MAKE WILTSHIRE SIDES.

By J. E. Brethour, Burford.

In the first place I draw attention to the general form of the three carcasses present. You will notice the length of the carcass, particularly the length of the body. After looking at the length, look at the evenness of the side. It is very long, with nice depth of side, but narrow and tapering to the gammon or ham, which might be better developed.

The loin is somewhat slack, and wider near the shoulder in proportion, though not showing much fat on the shoulder. That style of carcass is not correct.

Then, looking at this side, it is very even all the way down; the back shows it is well muscled over the loin, indicating good cuts. Here we have a plump, well developed, in fact, over-developed ham; there is a bulge here, which in making a correct ham for the market, will have to be cut off. This will reduce the weight of the ham, so that you will have some of this ham that will have to be put in the rendering tank for lard. Another specimen here is hollowed out, showing a light-fleshed gammon. It has great length, but shows a long, lean shank, which is not desirable, the market at present demanding a ham tapering and muscular, without showing undue prominence or fullness towards the hock. Coming down to the side again, the flank is a point we must consider. The flank, of course, is cheap meat, but it has to be well developed and show a good firmness all the way down the front part of the body.

Having a well-developed flank indicates an even distribution of the lean and fat throughout the entire carcass. Then you come to the shoulder, and here the shoulder is a little bit thick, and shows too much crest, which indicates an abundance of fat meat. This one has a short neck; the other is not so bad in the neck, though badly wrinkled, showing that the animal has been held too long, or is not in finished condition. These wrinkles should not occur in the side or round the crest or the neck. From the packer's standpoint, this pig is desirable, having less weight in the neck and head This one shows a weak jaw; it has no width, which is a strong objection from a feeder's standpoint, though it may be desirable from the packer's. It is best to have a strong, muscular jaw, so that the animal can properly masticate its food and have good digestion. Where you get a light, weak jaw, you generally have a long, tapering ham, with too much shank. From the ham to the shoulder there is a great deal of difference in these animals before you. In speaking of the living animals, I said we did not want too much length of side, because then you usually have a slow maturing animal and not a very good feeder. In the killing test, I had an animal which showed extreme length, but it was thin in the back; it was not properly matured or sufficiently developed, the flesh being rather soft. If it had been kept two months longer, it would have been right, but would then be too large for the market, besides the cost of keeping it two months extra. I think a pig should be got ready for market as soon as possible; from six to seven months should make them an ideal carcass. But care should be taken in the first stages of the pig's feeding so as to prevent them putting on too much fat. As to bone, I would consider the bone of this one a little too light;

the second, well, it is good, but the third is the ideal bone of that kind, being slightly flattened, and the muscles, well knitted and smooth at the joints, show that this was a strong, active, vigorous pig. Here we have a finished, ideal Wiltshire side, fitted for the British market, one which carries out the ideal I have mentioned—flat on the side and carrying uniform depth of side, there being an inch to an inch and a half of fat all the way down the back, and without any undue thickness near the shoulder. (Pointing to another side.) Here we have a well proportioned side, but there are two and a half inches of fat, which is entirely too much for the high-class English trade. The third one you can hardly tell by looking what it is. It is a thin, soft side, and sides of this kind are injurious to the trade. Certainly that side would condemn a case, and the price of Canadian bacon would be very largely influenced in the Old Country by such a side being in a shipment. It would be better for our trade if we did not produce this sort of carcass.

A Farmer : What causes this soft pork ?

Mr. Brethour : It has never been positively proven what causes it. To my mind, and after very carefully watching the living animals, having fed and then slaughtered them, I have come to the conclusion that it largely depends on the food given and the general health of the animal at the time of being slaughtered, especially the health of the animal. If you have a healthy animal I believe you can feed him anything that he will relish, giving the animal enough exercise to develop a vigorous body. The body should be well nourished by good, wholesome food, which goes to make a firm carcass.

A Farmer : Could you distinguish a soft carcass by the animal when living ?

Mr. Brethour : It is a very difficult thing to do; an expert might, but I do not think the average man is able to do so. If you know the conditions under which the animal was bred and fed, you would be in a better position to know if the animal would turn out a soft side than one who did not know the conditions of breeding and feeding.

A Farmer : What about exercise.

Mr. Brethour : Exercise is absolutely necessary in the production of good bacon. I do not mean that you must set a dog on the pigs every day and make them scamper round the farm, but I believe it is absolutely necessary to make the pigs, especially in cold weather, take exercise. In cold weather, being thin-skinned, the young pigs will keep in the nest. If you put young pigs where the temperature is cold, they will eat their food and then lie down, and the more they are kept in that way the more lethargical or lazy they become. If you have pigs that do not take exercise, reduce their food for some time, and if in winter time they cease to take much exercise, give them some vegetable food.

In summer time, when they naturally take a reasonable amount of exercise they can utilize stronger food. I believe that half their food by weight should consist of vegetable food—mangels or sugar beets. That would keep them in fairly good health. Prof. Day dwelt upon not feeding them too much liquid food. Part roots and dry meal, I think, are the perfect system of feeding in the winter. When you are feeding a large number, I think the food is better fed warm. I think the average good feeders are inclined to feed their pigs a little too much when just weaned from the sow.

Mr. McNeil : I was thinking if the bacon man would do as the chicken man does—distribute some food in the yard away from the animals—it would induce the pigs to come out and take exercise even in the winter.

Mr. Brethour : I think Mr. McNeill's plan is an excellent and a splendid

one—to have a little place where grain could be thrown down and mixed with chaff in the winter time, and to which the pigs could have access, because that would afford them exercise and some food at the same time. It would be an excellent way to make the young pigs take exercise, for I believe much loss is experienced with young pigs in cold weather owing to the difficulty of having a place in which young pigs can take exercise.

A Farmer : How often should pigs be fed daily ?

Mr. Brethour : Pigs should be fed five times daily until three months old, then three times a day. I have tried feeding twice a day, but it did not prove a good plan. Perhaps, if you are feeding matured hogs, twice a day may do for pigs up to 200 pounds, but I think three times a day is necessary. I am always very careful not to let the food get sour, because it causes the pigs to go off their feed, and that would indicate it was not a good thing.

A Farmer : What kind of breed do you consider most profitable to keep ?

Mr. Brethour : As far as breeds are concerned, most of you know my weakness in that respect. I should say that Yorkshires, although we have lots of bad Yorkshires. It is largely a matter of the individual animals, and the way the animals have been treated. Some advocate the breeding of a certain form of pig as their type, thinking that because that animal conforms to that type, he is the kind of pig to keep for breeding. My opinion is that we should try to furnish an animal that the packer can make an ideal carcass from, and if the ideal breeding type did not conform to that standard, we are going out of our way to raise that breed. The English breeders of Yorkshires have what they call the breeding type, and are breeding their Yorkshires to conform to that standard, and Yorkshires so bred are being imported into this country, but they are undesirable from the packer's standpoint. Most of the pigs we have bred from those importations will have to be very much modified in their form to produce the desired results necessary to secure a perfect carcass for the best market. I know some breeders think because pigs are imported from England they are better than those produced in this country, but I think those who know are aware that the class of pigs we produce in Canada are better than those produced in any other part of the world. (Loud cheers, and cries of "Well done, Canada," and renewed cheering.) I was in England in 1898, but before going I went through most of the packing houses in Western Canada, and I stated to the packers that I was anxious to learn all I could about the Canadian end of the bacon trade. Then I got letters of introduction from these packers to their agents in the Old Country. When in England I went through Smithfield and other markets, and their agents were very good to me. They showed me the class of sides they cut up, indicating both the desirable and undesirable sides, and gave their reasons for their criticisms. I found in every case the sides coming from Canada were better shaped than the sides coming from Denmark or Ireland or the United States. It may seem egotistical, but I say we had the best showing of sides from any country. (Cheers.) I was told by Lynx Brothers, in Smithfield market : "You men in Canada have the best form of hog in the world. You have also the best butchers. The carcasses brought here are of a better form than we get from any other country from which we get sides of bacon." I was surprised to hear that, and then to find the lower price for Canadian than for Irish and Danish sides, and I think it is only a matter of sentiment that Ireland and Denmark get better prices for bacon than we do.

Hon. Mr. Dryden : That we will overcome.

Mr. Brethour: That will perhaps be overcome when we have better transportation facilities. I think the Canadian packers are in a position to do their end of the work, if the farmers produce the animal they want. We, as farmers and breeders, have our end to look after, for I am sure the packers will do their part. Some of us think the packers do not discriminate enough in price between the pigs that furnish the first-class side and the poor ones, but I think the packers are trying to do the best they can. Competition is causing this.

A Farmer: Has it not been claimed that Canadian bacon has had a tendency to be hard, this last year or two?

Mr. Brethour: Yes, I have heard so, and I have heard it contradicted; but I believe there may be something in it. It is brought about by trying to make a perfect side out of an imperfect animal. Keeping the food back and holding the animal back to make it conform to the requirements of the market, viz.: a lean carcass.

A Farmer: Is that the fault of the feeder?

Mr. Brethour: I consider it the fault of the breeder, followed up by the fault of the feeder; if a man is breeding a short animal, it is difficult to make it furnish a long side.

A Farmer: How does it follow in getting a long side you have a difficulty in getting proper distribution?

Mr. Brethour: In having too long a side there would be error. You have to have extra amount of muscle to carry the desired result, and that pig would be too heavy to be an ideal carcass.

A Farmer: Is it the muscle that is the lean meat?

Mr. Brethour: Yes; certainly.

A Farmer: Is there any difference between Eastern and Western hogs?

Mr. Matthews, of the Geo. Matthews Packing Co.: This is a very important point. I can assure you the hogs from Western Ontario will average four inches more in length of side than their Eastern mates. The greatest difficulty we have is in the contrast. We selected these three sides out of one hundred sides. They are the best we could get, and a very serious complaint we have against the breeding is that they are too short.

The President: Is it the same breed in Eastern Canada that we have in Western Ontario?

Hon. Mr. Dryden: You see in Eastern Canada they have not before had the advantages of education such as you are getting now.

Mr. Brethour: I acted as judge recently in Eastern Ontario, and the animals were all the old style. They said, "We do not know the difference between a good pig and a bad one. We can sell these."

Mr. Matthews: We are practically taking the hogs from Western Canada, and letting the hogs from Eastern Canada go where they will, because we want a longer hog than we are getting in the Ottawa district, and cannot go into competition unless we get the longer hog.

Mr. Brethour: There is a tendency at all times when the tide starts in a certain direction to go too far.

Hon. Mr. Dryden: That is human nature.

Mr. Brethour: As Mr. Matthews says, the pigs in this section are too short, and I believe Mr. Matthews is purchasing boars of the Yorkshire breed in Western Ontario and giving them to the farmers, to enable them to produce a different sort of hog. It means that if we as farmers produce a perfect pig for the packer, the packer will get a better price in the Old Country, and the farmer, while he may not at present reap the benefit, must eventually feel the advantage.

Mr. McNeil: We have to thank the Agricultural Department for putting us, in the West, so far ahead of the people in Eastern Ontario.

Mr. Matthews: The difficulty with us is that we do not buy direct from the farmer; we have to go to the drover. There are several who come between the farmer and the packer.

A TALK ABOUT POULTRY.

By F. C. Hare, Ottawa.

It is a pleasure for me to be here to-night to talk to you about poultry. Three or four years ago it was almost impossible for any farmer to realize more for prime fat chickens than for ordinary thin chickens. Last August Mr. Henry Gatehouse, of Dorchester street, Montreal, wrote the Dominion Department of Agriculture that he would buy 500,000 pounds of fatted chickens at ten cents a pound. In October he wrote the Department that he was pleased with the chickens he had received, and said he would pay twelve cents per pound for fatted chickens. Two weeks ago the Department sold him 223 cases, containing 2,676 chickens for fourteen cents a pound, or for nearly $1,500. These were merely ordinary farmers' chickens that had been fed in fattening crates. There is a large and growing demand in Montreal for fatted chickens. Mr. Gatehouse said that if he had paid that money for those chickens three years ago, he might as well have thrown it into the river; had he done so last year, he would hardly have come out even; yet this year he can afford to pay fourteen cents per pound, plucked weight, remember, and make money. The Department conducted some experiments in Prince Edward Island with chickens, to find out how much they lost from the live weight by plucking and killing. Twelve fatted chickens weighed alive 66½ pounds, 54 pounds when plucked, and 37¼ pounds when killed, plucked and drawn. The loss in live weight from killing and plucking was 20 per cent., and the loss in plucked weight from drawing was 33 1-3 per cent., or 54 per cent. of the live weight of the chickens in the drawn weight. The Montreal chickens were sold for fourteen cents a pound, plucked weight: that means 22 cents per pound if they had been drawn and sold as some markets demand them. Throughout Canada there is a growing preference for undrawn chickens, because when the blood is left in the chickens and they are not drawn until they are placed in the oven, they are more juicy and tender than if bled, drawn, and exposed to the atmosphere for several days.

There is no reason why each farmer in this vicinity cannot raise one thousand chickens per year. There is a market in Montreal for every farmer around us to raise one thousand chickens. The Montreal firms this year could have handled ten times the number of chickens they bought. It is as easy with a plant of two incubators and suitable moveable houses and brooder that cost from $125 to $150 to raise one thousand chickens a year as one hundred with hens. In travelling through the country I have found that there is an ordinary class of chicken raised. Farmers have not recognized the fact that there is a ready sale and demand for a plump-bodied, compact chicken— a chicken low on the breast, plump, broad, and meaty. One man, with the help only of a boy raised and fatted 1,700 chickens at Bondville, Que. This work was accomplished together with the work of the farm. Satisfactory market chickens can be reared from either Barred Plymouth Rocks

or White Wyandottes ; low-breasted, plump-bodied, medium-size fowls should be purchased.

Hon. Mr. Dryden : What I should call a "Shorthorn" chicken. (Laughter.)

Mr. Hare : Yes ; a "Shorthorn" chicken. There is a market in Canada for winter eggs, and they are sold at high prices. Recently on a farm near Cornell University, in New York State, two flocks of 150 pullets and 150 hens respectively were similarly fed for egg production from the 1st of December to the end of March. The results were as follows :

The hens laid a daily average of 32.4 eggs per day ; their food cost 14½ cents per dozen eggs, and on the four months' experiment they gave a profit of $30.34.

The pullets laid a daily average of 54.1 eggs; the food cost 8½ cents per dozen eggs ; they gave a profit for the four months of $91.03, or $61.03 more than the hens, thus showing the superiority of pullets to hens for winter egg production. Considering the 2,100 fowls fed in these experiments, the best flock of 150 pullets yielded a profit of $62.03, and the poorest flock of hens a loss of $14.46. So that it is of the greatest importance in keeping poultry to select pullets for winter laying, and to breed a good winter-laying strain of fowls. This winter-laying trait can be induced in any breed of chickens. Barred Plymouth Rocks will be satisfactory winter layers. In feeding fowls for winter eggs, it is a remarkable fact that one pound of eggs equals in food value three quarters of a pound of meat ; so that when laying hens produce one pound of eggs—about eight eggs—the loss to them would be practically the same if we cut off three-quarters of a pound of flesh from their bodies. I cannot see any difference, although, perhaps, the chickens would. I give this remarkable fact to show the great advantage of feeding meat to laying hens. To secure the greatest number of eggs in winter, the hens must have animal food of some kind. A gentleman had six pullets hatched in July, 1901. They commenced laying on January 1st, 1902, and up to January, 1903, one year after they began, they laid 1,257 eggs. They were fed a warm mash on the cold mornings. On other mornings they were fed grain. They were fed grain (whole) again in the afternoon, scattered in straw litter, six inches deep. These hens had cut bone three times a week. Instead of that you could feed any kind of meat or animal food. I have found it a good plan to boil a liver or a beef's head ; to cut off the meat, and to use the soup with the mash. The pullets also had all the mangels and turnips they would eat. When a pullet wanted to sit, she was placed in a swinging coop, such as is described in one part of our Bulletin "Profitable Poultry Farming." It takes only about four days to break up sitting hens in this way. While in the coop feed the sitters a good quantity of animal food and raw vegetables.

In keeping eggs for hatching, farmers sometimes make the mistake of keeping the eggs in a warm place. Eggs for hatching should be kept in a cool room (40 degrees to 50 degrees), so that the white of the egg will not become liquid, and allow the yolk, which is lighter, to break through it and stick to the side of the shell.

Nests for sitting hens should be formed of earth and placed on the ground. It is better to take a packing house that will make nests about 15 inches square, knock the side out of it, and arrange a sliding board 12 inches wide in front to close the sitters in. Put some earth in the box, and hollow out the nest in the earth ; place a small handful of straw on the earth, and then lay the eggs on the straw. There is moisture in the eggs which must

be prevented from evaporating too rapidly; or, as the hatching proceeds, the membrane, or skin inside the shell of the egg, will become dry and hard. Then at hatching time the chick will not be able to separate the membrane and liberate itself.

A Farmer: Would you recommend a grass sod for a nest?

Mr. Hare: That is all right as far as keeping the eggs moist, but it is difficult to handle. It is easier to hollow a nest out of earth than out of the sod.

A Farmer: Do you place a covering over the earth?

Mr. Hare: Yes, a little straw. It is advisable to place sitting hens in a room where you can have a number together; that is, have the nests with sliding doors so that you can confine the hens. Allow all the sitting hens to feed and water together, and then make sure that each hen returns to her own nest.

A Farmer: Would you advise a sand bath for hens after they leave the nest? How do you feed them?

Mr. Hare: No; I would use sulphur before the hens are set, and again before the chickens hatch, and kill the lice in that way. Feed the sitters on whole grain, preferably corn, and have also water and grit in the pen.

Brood coops for rearing chickens in can be made out of a packing case. Cover the coop with tar paper, and have one side hinged. At night the chickens can be closed in and protected from vermin; as soon as the dew is off the grass the coop should be opened. In rearing chickens at our Illustration Stations, it has been found advisable to feed the young chicks a mash two or three times a day, because the smaller and weaker chickens of the lot will eat sufficient of the mash to keep them alive. Last year there was a scarcity of insects, and a number of chickens died through lack of animal food. If chicks are noticed to be weak and staggering around, the trouble is caused either by lice, insufficient animal food, or lack of grit. I have determined that even where chickens are at liberty, a more rapid growth will be made by giving them animal food. It can either be waste meat or dried blood meal, one pound of blood meal to sixteen pounds of ground meal, and fed in the mashes. When the chickens reach three months old, and weigh about three pounds each, they are placed in the fattening crates. A good fattening crate can be made out of an ordinary packing case. The front and bottom of the crate should be laths, up and down in front and two inches apart, and for the floor lengthwise of the crate one and one-half inches apart. The chickens are fed from a trough in front of the crates for twenty-four days on a thin mash of meal and sour skim milk. There are some breeds, such as Leghorns, Minorcas, and Andalusians, that it is impossible to fatten; Plymouth Rocks and Wyandottes are preferred. Yellow-fleshed chickens are not wanted. A corn-fed or yellow-fleshed chicken is not of such high quality as an oat-fed chicken, and consumers will pay better prices for the latter. One-sixth cornmeal can be fed in the mash, and a white-flesh chicken produced. If you have ground barley, you can feed it, and ground wheat also.

A Farmer: Are shorts good?

Mr. Hare: Yes.

A Farmer: What is a good ration?

Mr. Hare: Finely ground oats, with the coarser hulls removed; or equal parts ground barley, ground buckwheat, and ground oats. In the latter mixture the hulls of the oats can be kept in.

A Farmer: Would you recommend grinding rye when we have not the other grains?

Mr. Hare : I have never tried rye, but I think it would do as well as some of the other grains. The ground grain must be mixed to a thin porridge with sour skim milk or buttermilk. Feed the chickens three times a day. The first week very sparingly, and then after that give them all they want to eat. To digest their food, they must be fed grit twice a week ; give also water every day. About the last ten days of the fattening, feed a small proportion of tallow—one pound per day to seventy chickens ; it will improve the quality of the flesh, and costs little.

A Farmer : What about the cramming machine ?

Mr. Hare : We have discarded it from our stations, because it does not pay for the time it takes to feed the chickens. The period of fattening has been reduced to twenty-four days, and it has been found that the chickens fatten as well without the crammer as when fed by it.

A Farmer : But I have heard in fattening chickens the crammer makes better birds.

Mr. Hare : Well, it may be profitable for regular chicken-fattening establishments near the London, England, Market, who can sell specially fatted chickens at a very high price. For either the export or the local trade it is not.

A Farmer : Where do you get grit ?

Mr. Hare : Either from the lake or river shore. A special poultry grit can also be bought.

A Farmer : The grit has to be very sharp to do much work ?

Mr. Hare concluded his remarks by announcing that a revised edition of the Bulletin "Profitable Poultry Farming" was in course of preparation, and would be issued shortly. It will contain full instructions for building poultry houses, the hatching, rearing, and fattening of chickens, and could be had free of charge on application to the Poultry Division, Department of Agriculture, Ottawa.

A COMPARISON OF UTILITY VALUES.

By Francis H. Gisborne, Ottawa.

The next item on the programme was a lecture by Mr. Francis H. Gisborne, of Ottawa, on "Comparison of the various utility values of different breeds of poultry," illustrated by living birds, dressed poultry, and eggs of different breeds. No doubt, he said, you have been puzzled at the number of varieties upstairs, and if you want to know which is the best each poultry breeder will tell you the breed he keeps is the best ; but when you divide all poultry into four headings the matter is very simple. There are the laying varieties, the meat varieties, the general purpose varieties, which are pretty good layers and pretty good meat, and, finally, you come down to the fancy stock. The most promising varieties in the poultry world to-day are the practical commercial birds. I have here a collection of the different varieties for your observation. First of all, we will start with the egg varieties. These are called the Mediterranean varieties—Andalusians, Leghorns, and Minoreas. What I consider the best of the Leghorns you have here in the White Leghorn, and here is a Black Minorca, which is the most popular of the Minorca breeds. There are several kinds of Leghorns : Black, Buff, White, and two or three other kinds ; these birds are very quick, agile birds, consequently they do not put on meat. If you feed them heavily it increases their activity, and will afford you a very valuable return in the form of eggs,

and one gentleman with 100 White Leghorns in January received $27 for his eggs, which is a very substantial return for his money. There is no wonder many like the White Leghorns. The eggs are a good size, and they lay well. They are hardy birds, easily managed ; the only thing is to keep them moving, to keep them active. Then you come to what is essentially a meat-producing bird. This is an English Dorking—one of the best meat-producing birds. I am sorry I am not able to bring before you to-night the variety known as the Indian Game, which is a good variety, but a little inclined to the yellow skin and fat, which is so objected to at the present time, but they are very poor layers. The Black Minorca lays probably the largest eggs. For summer laying, there is nothing equal to them, and by having White Leghorns for winter eggs, and Black Minorcas for eggs in the summer, you can have a steady flow of eggs all the time ; and one of the essentials of getting the most lucrative egg market is the stadiness of supply. Your customers are not going to eat two dozen eggs this week, and to go without next week, consequently you must have something that will bring in a steady supply. These Minorcas and Leghorns do not make a satisfactory carcass. Here is a White Leghorn, weighing 3¼ pounds ; but it is not a satisfactory carcass ; it has a high, ridge like breast bone. Then you come to the Black Langshan, which is a very good meat variety, and well thought of in the Old Country. The first objection is the feathered legs. It does not, therefore, make as good and attractive a carcass as those of which I have spoken. The Dorking makes an admirable carcass, because it is long and wide, and the breast-bone is low, and it is broad in the shoulder ; but the carcass is rather inclined to be too big. You want a carcass as near five pounds as you can get it, because people are only willing to pay a limited price for their birds, therefore, the market for medium-sized birds is better than for large varieties, though for our own market, and especially for Christmas, you can sell large carcasses. We now come to the general purpose varieties—Plymouth Rocks and Wyandottes. I think the Plymouth Rock as generally bred is a little too high in the legs and too straggly. It would be a difficult thing to get that bird fattened, to so arrange its growth that it would make a satisfactory carcass weighing five pounds ; because when at that weight it would be too much frame and not enough meat to put on the market. The bird which, at the present time, is, I think, the best type we have, is the White Wyandotte. Here is a carcass which has received first prize for dressed poultry. It weighs five pounds, is evenly fattened, is broad-shouldered, has not a high breast bone, and makes a neat carcass, and with a light frame. There is scarcely any bird on the market you can bring to the perfection of the White Wyandotte. The bone is fine, not coarse at all ; and this is characteristic of the breed. Here is a variety I would class as a fancy bird (a Buff Chochin) : it is too leggy.

A Farmer : It has snowshoes on. (Laughter.)

Mr. Gisborne : Yes, it looks as if it had snowshoes on. I do not think anything could make that bird attractive. He has a great deal of offal, heavy frame, high breast bone. I do not believe you could bring a Cochin to be a satisfactory carcass. You have here one of the new breeds in Orpingtons, which is a very popular English breed. This carcass weighs five pounds. It is broad in the shoulders, low in the breast bone, and makes a clean carcass, with white, fine meat. We have not a live Cochin here, but we have his first cousin, the Brahma, a beautiful bird to look at when alive, but when dead he looks very much like the other, which is not beautiful. Then you have the Barred Rock. This specimen weighs six pounds, or one pound over

the weight you want. It has a long body, giving you a long slice of meat off the breast bone, and makes a nice carcass ; but it is too yellow. Here is a game—an exhibition game bird. You will see that that bird is the plumpest bird you have seen to-night. See its breast—it is as plump as a partridge; this specimen weighs four pounds. The great disadvantage is the shortness of body—you see how short the slices of meat would be that you could cut off the breast. In all these breeds you can vary them to a certain extent by a little care in the selection and breeding. By these means you can produce as near as possible the carcass you want. What the farmers require is to breed their birds with more intelligence. The fanciers are breeding them for fancy points, and the farmer must breed them for general commercial utility. You have all heard of fighting cocks. This small bird (a game Bantam) has been brought down from the Old English fighting game—and all this has been done by selection. You see how the big bird has been brought down and down until you have this little chap who only weighs a few ounces. If the farmers will only take the same care to produce what the market requires that the fanciers have taken to produce this bird they will not fail to produce both that which will best pay them and best suit the markets.

A Farmer: You have not said which is the best breed to rear?

Mr. Gisborne : For winter eggs, White Leghorns. For some time the Leghorns were very small, but they have increased the size. For summer layers nothing equals the Black Minorcas. For a general purpose bird, one that will lay eggs in winter, bring chickens in the summer, and then do for the market, Wyandottes. Plymouth Rocks, as at present bred, are too long in the legs and too large. The Orpington, according to those who keep it, is an excellent layer, but lays a small egg. It is a terrific eater, and I do not think there is any bird that will put on flesh so rapidly as the Buff Orpington, which has white legs, white feet, and white flesh. They are good layers ; the only difficulty, perhaps, is they are liable to get too large. Plymouth Rocks are usually excellent winter layers.

Mr. Hare : From 150 White Leghorns there were collected for four months an average daily of 54.1 eggs. You require to have a good laying strain. The Leghorns, as a rule, will lay better from March to July than the ordinary breeds.

A Farmer : Just so ; when eggs are cheap. (Hear, hear.)

A Farmer: From the 7th of November until the 1st of December I sold $77 worth of eggs from 100 White Leghorns. Mr. Hare said his pullets were ahead ; my experience has been that my old hens laid 60 per cent. and my pullets only 30 per cent.

Mr. Hare : All I can say is that the experience of the Experimental Stations not only in Canada but in the United States is in the contrary direction. Of course, there may be an exception to the rule, and this gentleman's experience may prove the exception.

A FLEECE OF WOOL.

By D. McCrae, Guelph.

To most of us—breeders and feeders of sheep—one of the first ideas that comes, when we consider the wool question, is its very low price. Times are very much changed since the days when ordinary long Canadian wool was eagerly sought after by wool buyers at prices anywhere between forty and

fifty cents per pound. With such spasmodic reactions now and then the price has been steadily declining, until it has now reached the lowest known mark—eight cents was paid for unwashed fleece as an ordinary price for last clip. For this extraordinary state of prices two causes have continued to make it possible, and from these there does not appear to be any prospect of an early change. The first is over-production; more wool is being grown than the markets of the world can readily use; the second, competition—from cotton and shoddy—from a combination of which "all-wool" goods are now largely manufactured. The great development of the sheep industry in the southern hemisphere—Australia, New Zealand, and the Argentine—is the cause of the over-production, and the production in these lands has been greatly increased by a judicious use of long wool rams on the original Merino flocks, giving a great weight of fleece and an excellent quality. This production seems to have reached its limit, as in all these lands other branches of stock raising are being tried. Wool is not easily destroyed—it does not burn readily, like cotton or other vegetable fibres. Moths destroy it, but the yearly loss from this cause is trifling, and the accumulation of the world's wool goes steadily on year by year. Then came cotton and shoddy. Only in recent years have manufacturers been able to use cotton and mix it so thoroughly with wool as to deceive the buyer. The man who first made all wool flannels out of cotton and shoddy made a fortune, but the buyers of his goods suffered from the change. Shoddy is made from woollen rags. Garments that have been worn till threadbare and delapidated are put through special machines to "get the old wool out of them," and when carefully handled much of the original fibre is retained. This is sometimes good enough to be again made into yarn, but usually is too short to spin, and has to be mixed with new fibre—cotton or wool—to be again manufactured. This process may go on again and again, as long as there is length enough in the shoddy to cling to the new material. In some mills the shoddy used is so short that it can only be put upon the machines by being lifted in a scoop shovel. Thousands of tons of old garments and rags gathered from any country of Europe are imported into Canada to be used in the manufacture of Canadian goods. Some of the wool in these rags may have been in a fleece shorn centuries ago, and may have been through the filth of the slums of the dirtiest city of Europe; and these rags are not cleaned before being used, but are sprinkled with a cheap wool oil to make them grind more easily. The use of shoddy has been a great factor in cheapening a fleece of wool.

There are many kinds of wool, but all may be classed under fine, medium, and long. Under fine are classed the merino and the various varieties of this breed. Originally these wools were short, and of the finest quality. By careful selection longer wools have been produced, while the quality and fineness of fibre have been retained. These are not grown to any extent in Ontario, as in this Province mutton, more than wool, has been the best paying part of sheep husbandry. The medium wools include the Down breeds, Southdown being the finest, with Shropshire, Hampshire and Oxford following. None of these dark-faced breeds give a wool which will make pure white goods. All of them carry a grey fibre here and there, which shows in a pure white article, but this is not much of a defect, as woolen goods are mostly colored. In the class of medium wools may be placed the Dorset Horn. All these wools vary more or less, according to the place grown or the food used, wool from animals of the same breed giving a different quality and showing different characteristics when grown under different conditions. In the class of long wools are the Cotswold,

Lincoln, and Leicester, and these wools, more or less modified, make up the great bulk of our Ontario wool. These wools have length as well as a heavy fibre, and some of them have a bright lustre. They are used in Britain for the manufacture of lustre dress goods when such fabrics are fashionable. In Canada such goods are not made, and the Canadian long wool may be used for homespun and tweeds, while the coarser kinds go into the manufacture of carpet warp. A fleece of wool when put over the s table will be divided into several qualities. The neck locks will go into one lot, the belly into another; the bulk of the fleece shoulders and back may make two or three more, and the coarsest will likely be found on the hips. There is usually some parts of an Ontario fleece full of seeds or chaffy bits of straw or burrs. These have to be separated, and the big burrs cut out, if there be any. Our wool, on account of our house feeding in winter, is more liable to be mixed with impurities of this kind than is wool grown in countries where the sheep are out all winter.

There are two modes of manufacture, and both were in use by our great grandmothers, years and years ago. These are known as combing and carding. In the combing process the fibres were separated and laid parallel and drawn out to be spun on the small spinning wheel. In the carding process the fibres were mixed and crossed, and the rolls spun on the large spinning wheel. Now all this is done by intricate machinery. Combing machinery takes the wool and lays the fibres parallel, and after removing all broken and short fibres, draws and redraws these wool fibres till they are stretched far beyond their original length, and are then twisted into yarn, which is known as "worsted yarn." It will be easily seen that wool to do this must be sound in staple. Any careless feeding, or want of feeding for a time, or any sickness, is apt to cause a weak place in the wool, and when being manufactured it breaks where the flaw was in the fibre. Formerly only wools of considerable length were used for combing, but recently machinery has been made to comb both fine and medium wools; and the fineness of these wools and the soft texture of the finer qualities make very beautiful goods. It will be noticed that in this process shoddy cannot be used, as the fibre of old goods is too short and brittle to endure the combing process. Worsted yarns have to be made from wool, but worsted goods are frequently made with a facing of worsted and a backing of very different material. Carding wool is the usual way of making wool in our country mills. In this process the fibres of the wool are mixed and crossed, and this is done by the wool being put through about three carding machines, called a "set," and the wool is then ready to be spun into "woolen" yarn. Very long, coarse wool is not as suitable for this as is wool of fine quality and medium length. It is in this process that cotton and shoddy have been much used to make a cheap yarn and cheap goods. This has been accomplished, and the result has been a great fall in the price of wool; the purchaser gets garments at much less first cost, and the wear is much less. If they are as cheap, in the real meaning of the word, is doubtful. Only an expert can tell when a piece of goods is all wool, or has a mixture of cotton and shoddy; but any one, by unravelling a piece of cloth, may get an idea of the strength of the yarn used in it; and new pure wool is usually much stronger and more elastic than a yarn of other material. The sanitary value of pure wool is very much greater than the mixtures, and should be used when procurable.

The foregoing talk on wool was illustrated by samples of wool of the different kinds, samples of combed top, and also samples of yarns and cloths, kindly furnished by the Forbes Manufacturing Co., of Hespeler, Ont.

DESIRABLE AND UNDESIRABLE POINTS OF THE MUTTON SHEEP.

By J. H. Grisdale, B.Agr., Agriculturist, Dominion Central Experimental Farm, Ottawa.

The importance of this industry in Canada is such that I need not try to impress it upon you. I quite agree with Hon. Mr. Dryden when he says: "I am clear we are on the verge of great prosperity in the sheep industry. We shall not only see material advances in the price of wool, but also in mutton. I would throw out the suggestion that now is the time to consider this subject." I quite agree in every way with those remarks. This is undoubtedly going to be one of the chief industries of Canada. We have excellent climatic conditions, and particularly in this part of eastern Canada are our conditions better than anywhere else on this continent. I would counsel every man who is interested in making a success of agriculture to consider this matter; and I think there is nothing will give any better returns for the amount of capital invested than mutton production. We have, however, too much inferior stock, as any of the butchers will tell you who buy their mutton within 100 miles of here. Much of the mutton in this district does not command the highest prices going, but if farmers would introduce good blood, such blood as we have represented on this platform, matters would be greatly changed. In the country some distance north of this, some good rams were introduced several years ago; to-day those breeders are getting $1.50 more per lamb than lambs in adjoining districts are fetching. But it is not enough to say the ram or the lamb is well bred; if he has the true type or conformation for a good mutton sheep, he must also have the power to lay on flesh on the right parts equally and evenly. The conformation depends on his breeding, the rest in the feeding, and the buyer cannot do more than judge the animal by its appearance, without paying any regard to the manner in which it has been kept and fed by the previous owner; therefore, my remarks should be looked at from the point of a farmer who has money to invest in well-bred sheep. Supposing it is a male, taking selection first. We want in the case of the male lots of vitality, force, energy, a masculine look about the head, if we are to hope for good results. Masculinity or impressiveness shows itself in the strength of the head. A large development of the head above the nostrils is thought by some to be one of the best indications of a good ram. We want strength of bone development in the head, yet there must be no coarseness. We want the look of strength, with sufficient fineness or quality in the animal. Coming to the neck, we want here for a mutton sheep lots of strength. Sheep with long, thin necks are little sought after by breeders who are after mutton. No animal with a thin neck, badly jointed to the body, can ever give satisfactory results as a flesh producer. We want to see the head well joined to the neck, the neck vein full, and the shoulder well filled in, because that means feeding quality and vitality in the animal. As we go back, we want strength and breadth all along the top, as indicative of good meat producing qualities, and then we want good legs. Sometimes we find sheep weak on their fetlock joints, which indicates weakness in the bone, rendering the animal unfit to be fed for any length of time. That means degeneracy, and we must avoid it. The wool of the animal should be that which is required by the breed. It does not matter whether we have Lincolns, Cotswolds, Shropshires, Southdowns, or anything else—it is the wool that is important to the breeder. One might ask why we want so much wool on the head of the Shropshire. Because it is indicative of good breeding; therefore we demand it. And, again, it is a peculiarity which is worth

money, because the man who has gone in for breeding any breed pays attention to what might be called the fancy points of that breed, and is willing to pay higher prices for animals well marked. Therefore in, say the Shropshire, we want an ear sufficiently indicative of strength and energy, yet not bare nor long. We must have the covering of the face and legs right, the little breed points right, for while they may not affect the quality of the mutton, yet as indicative of the breed it is worth a great deal.

A Farmer: Do you like a short leg?

Mr. Grisdale: Yes, a short, fine, and good quality of leg. Animals that are used as profitable flesh producers must be near the ground.

As you know, every animal to be healthy and thrifty must have lots of what we call vitality. This shows itself in chest development and heart girth. Without these strongly marked, you can hope to do little or nothing with breeding sheep. That is, we want a well-developed front, with the rest of the animal developed in proportion.

The part of the carcass the most valuable for mutton begins at the shoulder and goes back to the hock. It is important, therefore, in every mutton sheep to have no bareness on the back, no bones protruding, and every part should indicate compactness and solidity of flesh, indicative of good chops and cuts when the animal is fed up. The most valuable part of the sheep from the butcher's point of view is the "hotel rack," as it is called, extending from the third to the twelfth rib; back of that comes the loin, which also is important from the point of the consumer, since there are found the most tender cuts of the sheep there. The leg of lamb must always be famous, as we want lots of meat on the ham, as we want lots of meat right down to the hock. The consumer is not particular about the other parts of the carcass, yet I must impress upon you the importance of such parts as are found outside the valuable butchers' cuts, because we must have the vital parts of the animal well developed. To see the flank well developed in a carcass is not important, but we want to have good flanks in all feeding animals. If we want an animal that will lay on flesh easily, it must be one that can digest a large amount of food, and assimilate it, and without good digestive organs that cannot be done, therefore, we must have plenty of room in the flank or belly, to enable the sheep to take plenty of food.

The wool on the sheep of to-day is a minor consideration, so far as value is concerned, yet, if we are looking forward to the future interests of any or every breed, wool must be considered. We must have them carry wool of superior quality. It must be right up to the standard every time.

The President: Mr. Grisdale has covered the ground pretty thoroughly as to breeding, selection, and the type of the mutton sheep most desirable. After all that has been done, if you are having a flock, select the type of animal giving the best carcass. Unless you give the animal proper meat all that has gone before will be lost, and you will not get the benefit. Amongst beginners, and amongst many breeders that have passed beyond that stage, there is a tendency to give them too much meat. It is just as bad for your sheep to give them too much meat as it is to give them too little. The man who gives them too little will allow them to run with the other stock, and in the winter they may be fed very irregularly, and not get proper attention at all. In time they are allowed to run anywhere on the farm and get out of condition, and when they are like that, and the buyer comes around, he will not give the price he would have given for sheep of good appearance. If a man will not take care of his sheep, will not have the proper conditions, the buyer can reasonably be certain he is buying an inferior animal, because the man who understands selection will not have them in that condition.

But sometimes the buyer will find that they have been overfed—that they have had too much care. This I saw exemplified in a large flock of sheep a few years ago. A number of sheep in a flock became unhealthy, and many died, so the farmer decided to cull out and sell out to the butcher a number of them so as to give room enough for the balance. The butcher found the flesh was of inferior quality, simply because they had been taken too much care of. He had given them plenty of meat, but had not given them enough ventilation, and so he could not realize the proper amount that he should have had for them. Had he given them plenty of outside exercise, he would have avoided that unhealthy state in his flock. Thy would have done with less food; they would have been healthier, and made better use of the food they had if they had had more exercise. The meat would have been better, and the fleece they carried would have been finer. I would have sheep outside as much as possible; give them a place to get out of storms—a place that is dry and sheltered from above, without draught; but let them get outside all they can. Your sheep will then get healthy; they will not require much food. It is only in the medium course in which you will find the most profit. As to the best kind of sheep to have, there is no one who can answer that question, but there are none of the cross breeds. I took Leicesters, and we found them inclined to put on too much fat in certain places. It has been the aim of breeders not only in Canada but in the Old Country to try to overcome that, and they are able to put on a carcass of mutton or lamb, and particularly the latter, what is equal to anything put on the market. Shropshires have a rawness on the loin, but breeders are overcoming that. Dorsets have a weakness round the heart, but that is being overcome. Then in Lincolns there was a lack in the leg of mutton. The Lincolns were narrow and contracted in the fore quarter, but they are breeding to overcome that, and they are all breeding for the one ideal carcass of mutton, no matter what it is. They all have one ideal, and are all trying to get as near that ideal as possible; so that it is a matter of environment or breed to select one ideal. Ever since I can remember we have pastured our cattle and sheep together, and we have not experienced any difficulty. Give a reasonable amount of pasture, both to the cattle and to the sheep, and you will not experience any difficulty at all.

THE KIND OF MUTTON CARCASSES REQUIRED TO BRING THE HIGHEST PRICE IN THE BEST MARKETS.

By B. Slattery, Ottawa.

Here in the eastern portion of the Province we come across many different grades or qualities of sheep. We have some Dorsets, Leicesters, Shropshires, and South Downs. Here are three specimens; you can see they are three different kinds of sheep. We find here in eastern Canada that our housekeepers do not come and ask for a certain kind of lamb; they simply come in and ask for a quarter of lamb. It is different in the Old Country, where they go to the butcher and ask for a leg of mutton, naming the breed or the different grades of mutton. People here are not educated up to that. But people are getting to know the difference between the different grades of mutton. Our custom was to go to a farmer and give him a price all round for his lambs—$3 or $4. Now we buy our lambs by weight. It pays the farmer best to have a good class of lambs, because now we class the lambs we buy. To-day in our market the class of goods in my hand is worth two cents or more, even, for table use than the other one; and what it loses in

wool it more than makes up, perhaps, in meat. This lamb is sweeter than the other.

Hon. Mr. Dryden : How can you tell that ?

Mr. Slattery : We are supposed to tell when we see the lamb. From the color of the meat we are able to say that this lamb is sweet. You can see there is a rich flavor in that lamb.

Hon. Mr. Dryden: But I want you to explain why you know that lamb is sweet?

Mr. Slattery : It is a well-bred animal. A pure bred never fills up inside as a cross will. That is a cross of Shropshire and Southdown. When you have a sheep produced in that way, I say it is all right.

The President : What we want to know is why you say that that lamb is sweet. We know from you that you believe it to be the sweetest lamb here ; we want to know the reason why you arrive at that conclusion, so that we may all be enabled to judge another time as to when a sheep or lamb is sweet ?

Mr. Slattery : That sheep, I say, is the best here. It has most of what fetches the most money.

Prof. Day : How does the value of the leg compare with the chump chops ?

Mr.. Slattery : They are the same price in our market. In my opinion the Leicesters are the best sheep, because they do not grow so much fat as some of the others. A sheep or lamb must be well fed before the leg will be of the best quality. The leg in a sheep or lamb is more important than in a bullock.

Mr. Grisdale pointed out that the sheep referred to by Mr. Slattery as the sweet animal was better than the others on exhibition because the conformation was better, and showed more valuable meat in the animal.

Hon. Mr. Dryden : In my judgment the information that has been given from this platform during the past three days has been of a most valuable educational character. (Cheers.) I hope when next we have these object lessons we shall have a larger number of those interested present. Probably in the opinion of most of you these meetings will be well worth keeping up. (Applause.)

Mr. B. Slattery, on behalf of the city, as well as of all who had participated in the proceedings, thanked the Hon. John Dryden and his colleagues for the excellent manner in which thy had carried out the affairs of the Convention. When the matter was first mooted, he was a little chary about it, knowing the little interest farmers took in these matters. Now, from what they had seen, they must say that while the people of Ottawa were not as much interested in their proceedings as they should have been, he assured everyone interested that the citizens as a whole in the future would take a more prominent position in encouraging a continuance of these assemblies. It was in the interests of the City of Ottawa that they should have this show established on a permanent basis, and to secure that end he would give the movement all the support he could.

REPORT ON EASTERN ONTARIO POULTRY SHOW.

By S. Butterfield, Windsor.

Barred Plymouth Rocks were the largest class, and all prizes came west, except first and fourth pullet and fourth cock. Cock, first, a nice, well-grown bird ; to some might be considered a little dark in barring ; good shape. Second, not so large. Hens, 12 ; first and second both good ones, with not

much to choose between ; good size, and even in barring. Third, not so good in shape. Cockerels, first, a very much admired bird, shown in the pink of condition ; narrow barring down to the skin ; great shape. Second, a little deficient in shape, not so even in color. Third, a good bird if others were not there. Pullets, 17 ; first, a good shaped bird, even in barring ; just at her best. Second and third, bloom of virginity lost on them. White Rocks, a disappointment in numbers, 25 all told, but quality was extra good. Cock, first, a grand big bird, pure white color, nice yellow legs and beak, good in comb. Second, another good one, but did not have the size of the other bird. Hens, first, the Industrial winner of last fall. Second, an eastern winner. Cockerels, first and second doubtless two brothers ; very little to pick from, as also third and fourth. Pullets, first, a nice, clean bird, good shape and color, with rare color in legs. Second and fourth, two rare good ones, but on account of lateness of show they had lost their bloom. Third, a nice little one.

Buff Rocks. Mr. Cumming, of Russell, just about captured all the plums—three firsts, two seconds and a third falling to his lot.

Golden Wyandottes. "How the mighty have fallen," from being the largest class of 1902 to one of the smallest, and the same is applicable to both the Silvers and the Whites, the Buffs making the largest showing, the winners being of a rich, golden buff, and very sound in color.

Leghorns were all very good classes, especially the S. C. Whites, they being the second largest class in the show. First cock, a bird of rare color, with rich colored legs, nice comb, good shape ; a bird hard to beat. Second, another good one, not much to choose between. Third, deficient in shape. First hen, a good one, nice spread of tail ; good shape. Second, a little coarser in head. Third, about as good as first. First cockerel, "a chip off the old block." Second, a pure white bird, of good shape; not quite so good in head. Pullets, 21 ; not much to choose between the winners. Balance of Leghorn classes were fairly well filled, with some good birds.

In Games Mr. Barber had nearly everything to himself, as had Mr. McNeil in Polands, and Mr. Oke in Hamburgs.

In Game Bantams, Mr. Barber took majority of prizes, and in ornamental Mr. Oke, and Fortier & Nantel were the principal exhibitors.

Turkeys numbered only 22, geese, 43, and ducks, 63.

By Wm. McNeil, London.

Light Brahmas. Seven cocks. First, a grand, good bird ; good head and comb, nice hackle, good back, nice tail, nice legs and toe feathers, in fact, a grand bird all through. The same description will apply to the second, but he had a poor comb. Third, another good bird, fair head and comb, good hackle, fair tail, a little off on wings, too short on body, good legs and toe feathering. Fourth, another fair bird ; too short on body, and too much Cochin shape ; good head, fair comb, nice hackle ; too short on back, too dark on saddle, a little short on leg. Five hens ; first, a grand hen, good head, fair comb, good hackle, nice back, good tail, good wings, with nice leg and toe feathering. Second, fair in head and comb, medium in hackle, nice back; poor in tail, off in wings; leg and toe feathering fair. Third, medium head and comb, fair hackle, a little light, back medium; tail a little off in color, wings poor, leg and toe feathering fair. Same description will apply to fourth. Seven pullets ; first a nice pullet, very good in head and comb, nice hackle, good back, nice tail, both in shape and color, good in leg and toe feathering. Second, fair in head and comb, nice hackle, fair back ; little off in color on tail and wings ; fair leg and toe feathering. This description will apply to third and fourth pullets. Nine cockerels ;

first cockerel, seemed to be a son of first cock ; he was his image ; the same description will apply to him as to first cock. Second cockerel, another good one, nice comb, good head, nice hackle, good, clear back, good shape, nice tail, good wings, nice leg and toe feathering. Third, another nice cockerel, fair comb, good head, nice hackle, medium on back, with fair tail, fair wings, good leg and toe feathers. The same description will apply to fourth cockerel.

Dark Brahmas. Two cocks ; first, a grand bird, good head and comb, nice striped hackle, good, clear back, nice pair wings, with good saddle, good tail, grand breast, good leg and toe feathering. Same description will do for second, but he was a little mossy around the fluff. Two hens ; first, a grand, big one, good steel grey all over, well pencilled, with a grand hackle, good leg and toe feathering. Second, another fair hen, but more of an iron grey ; a little darker than first hen, good leg and toe feathering. Three cockerels ; first, a grand, big bird, good color, fine hackle and back, with good, striped saddle, very nice head and comb, good tail, nice colored breast, good leg and toe feathering. Second, another fine bird, but a little short on leg, otherwise a good one. Third, close up to second, but a little mossy on fluff. Three pullets ; first, the image of the first hen ; the same description would answer, only her breast was not so well pencilled. Second, a very nice pullet, grand in shape, but a little too dark in color ; like second hen, otherwise good. The same description would apply to third.

Buff Cochins. Two cocks ; first, a fair, big bird, good and sound in color, comb a little large, head fair, otherwise a grand bird. Second, off in color ; too red across the wings. Two hens ; first, a fair hen, even in color. Same will apply to second. Four cockerels ; first, a grand bird, very even in color, good head and comb, good hackle, fair back, good colored tail, good leg and toe feathering. This, I believe, will make a grand cock bird. Second, a grand little bird, but not big enough ; grand, uniform color all over, with good leg and toe feathering. This bird I liked best, but had not size to take first place. Third and fourth cockerels, two fair birds. Six pullets ; first, the best one I have seen for many a year ; in fact, she was the best I ever saw ; good head and comb, nice, uniform buff color all over, splendid shape, with a grand, big cushion and fine fluff, nice leg and toe feathering, with a nice little tail ; this was a Cochin that would be a model for all Cochin breeders to follow. When you looked at her you would have thought she was raised in a pail, she was so round. Second, a fair pullet ; would have thought her a good one had first pullet not been there, nice head and fair comb, good shape, good in color, good leg and toe feathers. Third and fourth, two fair pullets, but not close up to second.

Partridge Cochins. Four cocks ; first, a grand bird, good head and comb, nice striped saddle and hackle, with a good back, nice tail, good breast, good leg and toe feathering. Second, another fair bird, good head and fair comb ; not so good in saddle or hackle ; fair back, good in breast and leg and toe feathering, with a nice tail. Third, a little under the weather, and a little small in size, grand color, fair head and comb, grand striped saddle and hackle, but a little small to get up high. Fourth, a big bird, fair comb and head, off in saddle and hackle, good in breast, also in leg and toe feathering, fair tail. Five hens ; first, grand hen, splendid color, good head and comb, good hackle, good leg and toe feathering, but a little coarse in pencilling. Second, close up, a little dark in color, but nicely pencilled all over, with good head and comb, fair leg and toe feathering. Second, another fair hen, not so good in color or pencilling. Fourth, medium hen ; the same description as third will apply to fourth. Five cockerels ; first, a grand colored, good, big cockerel, that will make a sure old winner, with nice comb,

good head, nice striped hackle and saddle, with a good back, nice tail, good wings, good breast, good leg and toe feathering ; a little long on leg. Second cockerel, another fair bird, fair on comb and head, not so good on saddle and hackle, nice back, good wings, nice tail, good breast ; a little too high up on legs. Third cockerel, fair bird, fair head and comb, a little off on saddle and hackle, fair back, a little off on wing, poor on leg and toe feathering, a little too long on legs ; fair breast. The same description will apply to fourth, only he was a little heavy on hocks. Five pullets ; first was a dandy, good color, good shape ; I believe she was a daughter to the first hen ; she looked like her very much ; good head and comb, nice striped hackle, well pencilled all over, grand fluff, nice little tail, good cushion, good breast, nice leg and toe feathering. Second was close up ; about the same description would apply to her. Third, another nice pullet, not so big, but just as good. Fourth, a fair pullet, but not so good in color, though nice in pencilling. Black Cochins ; two cocks. First cock, a fine big bird, good shape, with a fair comb, good head and fine color all over ; same description would apply to second. Three hens ; first, very fine, grand shape, good color. Second, another good hen, good shape, fine color, good leg and toe feathering. Same description would apply to third. Three cockerels ; first, a grand Cochin shape, very good and sound in color, good head and comb, nice tail, good leg and toe feathering. Second, a fair cockerel, poor comb, fair in shape and good color. Third, a grand, big bird ; a little too high on leg, and I think he must have moulted his tail out when going to the show. Three pullets ; first, very fine, good color, nice shape, good size. Same description would apply to second. Third, close up. White Cochins, two cocks ; first, a grand shape, good length of feather, a nice bluish white, small but a good bird. Second, a great big bird, nice head and comb, a little long on back; a little off on color, too long on leg for a Cochin. Three hens ; first, a nice little one, grand in color, good in shape, but a little small. Second, a big hen, fair in shape, medium in color, a little coarse on hocks, otherwise good. Third, a big hen, high on leg, good head and comb, too long on back, a little off on color. Two cockerels ; first, a nice bird, good head and comb, fair in shape, good back and tail, a little off on color, a little long on leg ; would make a good old cock. Second, another fair bird, not just as good as first. Two pullets ; first nice, good shape, fair color, good head and comb, nice back, fair tail, good breast, nice leg and toe feathering. Second, close up. If these Cochins had been nicely washed it would have made a great improvement.

White Langshans. One cock ; this is a good bird for White Langshan. The same would apply to the hen, cockerel and pullet. Black Langshans, three cocks ; first cock, a grand bird, fine shape and color, good head and comb, splendid back, with a good tail, high up on leg, with good breast. Second, another good bird, close up. Third, a fair bird, little coarse on comb, good color, good back, nice tail ; too short on leg. Three hens ; first, a grand hen, good shape and color, nice head and good comb, good back, nice tail, good breast, nice leg and toe feathering. Second, another good hen, fair head and comb, fair back, with nice tail, good breast ; hardly so good on legs and toes. This description would apply to second. Third, another fair cockerel, fair comb, nice head, nice back, fair tail, nice breast ; not so good in leg or toe feathering. Three pullets ; first, a nice one, nice head and comb, good in color and shape, nice back, good tail. The same description would apply to second. Third, a fair pullet, nice head, good comb ; off on leg and toe feathering.

Black Javas. Four cocks ; first, a grand bird, fair comb, good head and wattles, nice back, good tail and color, good breast, leg and toes all right.

Second, another nice bird, nice head, fair comb and wattles, nice back, fair tail, good shape, legs and toes good. Third, another nice bird, good head, fair comb, nice back, good tail, fair breast, legs and toes good. This description would apply to fourth. Six hens ; first, nice hen, grand shape, good color, nice head and comb. Second, close up, also third and fourth, another grand hen, but down behind. Three cockerels ; first, an extra good big one, nice comb, good head, grand color, good back, nice breast, good legs and toes. Second and third both good. Three pullets ; first, a nice one, good head, nice comb, good color, nice shape, nice tail, good legs and toes. Second, another nice one, fair head and comb, nice back, good tail, nice breast, good shape. Same would apply to third. Mottled Javas, three cocks ; first, a nice, even mottled all over, good head and comb, good shape, good legs. Second, a fine, good-sized cock, good head and comb ; not so well mottled as first. Third, close up. Three hens ; first, extra fine, good shape, well mottled. Second, not so large, but a nice little hen. Third seemed to be a sister to the first, but her tail was out. Three cockerels ; first, a grand bird ; you would have thought he was a son to the first cock ; the same description would apply to him. Second, a fair bird, not so large or so well mottled as the first. This would apply to the third. Four pullets ; first, a nice, big pullet, well mottled, good shape and size. Second, another grand one, not so big as first, good color. Third, another good one, not so well mottled or as large as second. This would apply to fourth.

Silver Grey Dorkings. Four cocks; first, a grand bird, a little off on comb and wattles, good shape and color, nice long body, short legs, with a good tail and full breast, saddle and hackle, almost pure white ; this bird must have done a lot of winning. Second, another good bird, better in head and comb than first, a little short on body, not so good on saddle and hackle, a little long on leg, good tail, nice breast. This would apply to third and fourth. Three hens; first, a good one, grand color, good head and comb, nice hackle, good, long back, nice salmon breast, almost clear in wing, nice short leg. Second, another good hen, nice head, comb and wattles, fair on hackle ; not so good on back or breast ; good legs and toes. This would apply to the third hen. One cockerel ; this is a nice bird, good head and comb, good saddle and hackle, good tail, nice legs. Two pullets ; first, a nice silvery grey all over, a little light on hackle, a little light on breast, nice, long body, with good comb and wattles. Second, too dark ; I think she must have had a little colored blood in her.

Colored Dorkings. Two cocks ; first, a fair bird, good comb, ear lobes and wattles, with a nice, long back, good saddle, hackle and tail, nice breast, good leg and toes. Second, very close up. Three hens ; first, a good hen, grand color, fair head, good comb, ear lobes and wattles fair, hackle nice, back off on color, not so long as first, tail fair, breast a little off in color, leg and toes good. This will apply to third hen. One cockerel ; nice, good head and comb, splendid shape and color, good tail, nice long back, good saddle and hackle, good legs and toes. Two pullets ; first, a good one, good head and comb, nice hackle, good back, nice tail, good breast, nice legs and toes. Second, another fair bird, fair head, comb and wattles ; a little off on neck and back, fair tail, a little off on breast color. White Dorkings, two cocks ; first, a nice cock, not big, good color, a little off on comb, good legs and toes. Second, a big bird, hardly as good in color or comb. Two hens ; first, a very good one, nice size, shape and color. Second, close up. One cockerel, a fair bird, nice size, color and shape, a little off on comb. Two pullets ; first, nice size, good color, good back, nice head, comb and ear lobes. Second, close up.

Spanish. Seven cocks. This was a grand class, as good as I have ever seen. First, a grand size, splendid color, medium comb, splendid face and nice wattles, with nice, long back, good color, nice tail, good legs. Second, another nice bird, a little off on comb, nice face, good wattles, of good size, nice back, with fair tail, good long body, nice breast, with good, fair legs. Third, another nice bird, off on comb, not so good on face or lobes, good color, fair back, medium tail, good leg and toes. This would apply to fourth. Eight hens ; first hen, a grand one, with nice comb, good face, nice wattles, good neck, nice back, good tail, good, long body, nice legs. Second, another nice hen, fair comb, nice face, medium wattles, nice back, good tail ; hardly as long in body as first. This would apply to third and fourth. Six cockerels ; first, a grand young bird, straight comb, fine, white face, nice wattle and ear lobes, splendid in color, nice colored back, and good length of body, nice tail, good legs. Second, another nice bird, not so good on comb or face, fair wattles, good color, fair back, nice tail, good legs and toes. Third, another nice one, comb a little over face, fair in length, good in color, wattles nice, back good color and shape, tail medium, legs and toes good. Fourth, close up. Eight pullets ; first, a grand pullet, just looks like first hen, only one little fold in her face, grand comb, good head, nice wattle, with a grand face, nice neck and good shaped back, good tail, leg and toes. Second, another nice bird, fair neck and back, nice tail, good color, good legs and toes. Third and fourth, close up.

Andalusians. Three cocks ; first a grand bird, nice head, comb and ear lobes, with good hackle, saddle and tail, well laced breast; good body, nice legs. Second, close up. Third, off on comb, poor on hackle and back, off on saddle, breast poorly laced, legs all right. Four hens ; first, a good one, nice head, a good comb, good hackle, back grand color, finely laced, with a nice tail, back good length, breast good in color, nicely laced. The same would apply to second, only she was a little heavier laced. Four cockerels ; first, a nice one, good head and comb, good hackle, saddle and back, nice breast, well laced, good legs. This would apply to second. Third, good comb, ear lobes and wattles ; poor in hackle, saddle and back, poorly laced on breast ; nice legs. This would apply to fourth cockerel, only he was a little lighter in color. Four pullets ; first, a grand one, nice head, comb and wattles, nice hackle, well laced back, good tail, grand laced breast, nice legs. This would apply to second, only second is a little darker. Third, fair comb, ear lobes and wattles, off on hackle, poorly laced on back. This would apply to fourth pullet, but she was too light in color.

Black Minorcas. Five cocks ; first, a grand one, splendid comb, good ear lobes and wattles, and a nice face, nice, long back, good in color, nice wings, good tail, nice, full breast. Second, another nice bird, with good comb, nice wattles, good lobes, but a little white around eyes, nice back, good color, fair tail, good wings, nice legs ; I think this cock was the one I saw at Ottawa last year as a cockerel. Third cock, another nice bird, not so good in comb and wattles, with fair, back, nice tail, good legs. This would apply to fourth cock. Ten hens ; first, a grand hen, with nice comb, ear lobes and wattles, good shaped back and nice color, good tail, a splendid pair of wings, but one feather is under the wing with a little white on it ; it was so small that I did not see it till after the bird was judged, and I did not feel like turning her down for it, as she was a grand hen ; there was no protest put in, so I let her go. Second was another good hen, with nice comb, ear lobes and wattles, fair back, good in color, nice tail, good legs. Third, another nice hen, fair comb, ear lobes and wattles, fair back, color and tail ; not so good in flight feathers ; good legs. This would apply to

fourth. There was another hen, the best one in the show, but she was not fit to stand up. Ten cockerels; first, a good one, nice head, comb, lobes and wattles, nice neck, good, long back, nice color, good tail, nice breast, good legs. This would describe the second. Third, another nice cockerel, a little off on comb, good wattles and ear lobes, nice neck, a long back, fair tail. Fourth, fair comb, wattles and ear lobes; poor on neck, short on back, short on tail; fair legs. Eleven pullets; first, a nice one, good comb, good wattles and lobes, nice neck, good back and color, with a nice spread tail, breast good, legs good. This would describe the second. Third, another nice pullet, fair comb, ear lobes and wattles, fair on neck, not so long on back, good color, fair tail, good breast, fair legs. Fourth, another good pullet, hardly as good in comb, ear lobes or wattles, good neck, good back, fair in color, good tail, nice breast, fair legs.

White Minorcas. One cock, good bird, good comb, ear lobes and wattles, nice neck, good back, good color, fair tail, good breast, good legs. Three hens; first, a grand one, good comb, good wattles and ear lobes, good, long back, nice tail, good breast, high on legs. Second, another good hen. Same description would also cover third hen, only she was a little shorter on leg. Three cockerels; first, a grand big one, fair comb, ear lobes and wattles, good neck, long body, nice color on back, good tail, nice, full breast, high on legs. Second, a fair bird, not as good in comb, wattles and ear lobes, not so long on neck, back, or as good on tail, lacks a little on breast, not so long on legs. This would apply to the third. Five pullets; first, a grand one, with good head, comb and wattles, nice neck, back and tail, nice, full breast, with good, long legs. Second, another good one, nice comb, lobes and wattles; hardly as long on neck or back as first one; good breast, fair on legs. This would apply to third pullet. Fourth, not as good on comb, lobes or wattles or neck, back or tail, good breast, fair legs.

Orpingtons. Two cocks; first cock, black, good shape and color, fair head and comb; easy winner. Second bird, buff, not worthy of a prize. Seven hens; first, a grand, black hen, nice comb, good color and shape. Second, close up to first. Third and fourth, two poor buffs in color, but good in shape. Ten cockerels; first, grand buff in color, poor comb, little long on leg, too long and narrow on body. Second, a black, grand color, too much comb, too much tail, too short on back. Third and fourth, buff, off in color, little too long on leg, otherwise fair. The best buff cockerels I had to leave out, for white in ear lobes and feathers on legs. Thirteen pullets; first, a grand buff all over, nice comb, good shape, a little high on leg; this is the best Orpington pullet I have seen this year. Second, a black one, nice head and comb, good color, fair shape, a little short on back. Third and fourth, buffs, third fair in shape, long on leg, off color; same will apply to fourth. Some fine pullets left out for feathers on legs and white in ear lobes.

Houdans. Two cocks; first, good bird, fair crest, good beard, nice comb, good size, fine shape, nice tail, good legs and toes, even black and white all over. Second, fair bird, off on crest and beard, good comb, fair shape, good tail, fair legs and toes, off a little on color. One hen, a very nice one, little small on crest, good color, good beard, fair comb, good even black and white. Four cockerels; first, a nice bird, good size, fair crest, good beard, splendid color, good back, fair tail, nicely mottled all over, good legs and toes. Second, close up. Third, poor bird, off on crest, beard, medium color, fair back, off on toes. Same would apply to fourth. Four pullets: first, nice bird, but not big enough; good color, fair shape. Second, poor in color and size. Third and fourth, two grand pullets, fine size, grand color, good shape, off on comb, but had to be turned down for feathers on legs.

Red Caps. Two cocks ; first, a fine bird, good shape, fine color, a little off on comb, good tail. Second, about the same. Four hens ; first, a nice hen, good color, fair size, good shape, nice comb. Second, the same. Third, a fair hen, not just as good as the first two. Fourth, a big hen, off in color. Two cockerels ; first, a grand big bird, good shape, fine color, comb a little large. Second, another fine one, good shape, grand color, a little off on tail. One pullet, grand, good in shape and color, nice comb.

A. O. V. Seven cocks ; first, a Black Wyandotte ; easy winner ; grand all over. Second, a Partridge Dot ; grand bird, good shape and color. Third, very nice Creve Coeur cock, good size, fine color, crest and beard. Fourth, LaFleche, good cock, comb, ear lobes and wattles, nice shape, good color. Ten hens ; first, a Black Dot, a fine hen, good head, comb, ear lobes and wattles, nice shape, grand color. Second, Creve Coeur hen, good crest and beard and color, fine shape. Third, LaFleche, a good one, good hen, comb and ear lobes, good color. Fourth, close up. Seven cockerels ; first, Creve Coeur cockerel, extra fine, very large, good crest and beard, nice shape. Second, Black Dot cockerel, a good one, nice head and comb, good shape. Third, LaFleche cockerel, a nice bird, good head and comb, wattles and ear lobes, fair shape, good color. Fourth, a Creve cockerel, close up to third. Seven pullets ; first, Creve, good one, fine crest and beard, good color, fine shape. Second, a Black Dot, nice head and comb, good neck, fine back and color. Third and fourth, Creve and LaFleche, close up to second.

Toulouse Geese. Four old birds, all fine, fit to go to any show. Five females, good color and size. Five ganders. Third and fourth, all good, big ones. Three geese ; first, second and third, good, big ones.

Embdens. Four ganders, all good ; not much difference. Four geese, first, second and third, good. Fourth, close up. Young gander, grand bird. Two young geese, both good.

Chinese. One nice gander and two good geese. Young, two nice ganders. First and second, good geese. Third, little off.

A. O. V. Two African ganders, both nice. First, second and third geese, good. Young gander and goose, nice

Rouen Ducks. Two good drakes; first, nice head and beak, good color and breast. Second, a good one, but lacked a little on breast. Two ducks ; first, a good one, good head, beak, grand color, well pencilled. Second, close up, but a little too dark. Young, four drakes ; first, a good one, nice head, beak and color all over back, good breast, nice tail. Second, another good one, not so good in head and color, better on breast. Third and fourth, close up.

Pekin. Three drakes ; first, good head and color, fine in shape. Second, close up, almost the same as first. Third, like second. Two fine ducks, good size, fine head and beak, good color. This will apply to first and second. Young, four drakes ; first, a fine bird, fair head and beak, good neck and body, good shape and color. Second, a little better in beak, not so good in head and neck, good in color and shape. Third and fourth, close up. Young, five ducks ; first, very fine, grand head, good neck, good body, fine color. Second a good one, but not as good in beak or head, fair body, shape, and good color. This would apply to third and fourth.

Aylesbury. Four drakes ; first, a good-shaped, fine one, good beak in shape, but off in color, neck long. Second, not so good in head, but better in beak, a good body. Third and fourth, both good birds. Five ducks ; first, a fair bird, not good enough on head, otherwise good. Second, good, big one, fair head and beak, but not in good show shape. Third, a fair one. These two ducks had to be left out, for black in their beaks. Five young drakes ;

first, fine head and back, good neck and fine shape body. Second, not just as good on head and beak, a little off on shape of body. This would apply to third and fourth. Five young ducks ; first, a good one, nice head and beak, good neck, good body, fine color. Second, hardly as good in beak, otherwise as good as first. Third and fourth, both good.

Cayuga. Three drakes ; first, very nice head and good beak, good shape. Second and third, close up. Two ducks, both good, fair shape, good color. Young, five drakes ; first, good, good beak, nice head, grand color, fine shape, good size. Second, another good one, fair beak, good color and shape and size. This would apply to third and fourth. First duck, very nice one, good head and beak, solid color, good all over. Second, a fair duck, fair head, medium beak, not so good in color as first. This would apply to third and fourth.

PRIZE WINNERS AT EASTERN ONTARIO LIVE STOCK AND POULTRY SHOW.

DAIRY TEST, 48 HOURS.

——	Name of animal.	Milk.	Test.		Fat.	Solids not fat.	Points.
			Feb. 11.	Feb. 12.			
		lbs.			lbs.		
1st, Shorthorn cow over 36 months, Wm. Ormiston, Jr	Morning Glory.	95.31	3.8	3.8	3.61	9.12	108.68
1st, Ayrshire cow over 36 months, J. G. Clark	Minnie Clyde..	85.75	3.6	4.0	3.26	7.82	103.28
2nd, Ayrshire cow over 36 months, J. G. Clark	Belle	92.87	3.3	3.3	3.06	7.94	97.36
3rd, Ayrshire cow over 36 months, Reid & Co	Duchess	68.0	3.9	3.8	2.61	6.04	76.36
1st, Ayrshire heifer under 36 months, J. G. Clark	Topsy Belle ...	71.24	3.4	3.7	2.52	6.46	76.24
2nd, Ayrshire heifer under 36 months, J. G. Clark	Clorassa.	62.25	3.7	3.4	2.20	5 46	67.54
3rd, Ayrshire heifer under 36 months, Reid & Co	Beauty	45.12	3.8	4.0	1.77	4.01	57.64
1st, Grade cow over 36 months, J. G. Clark	Crumply	75 5	4.6	3.8	3.16	6 67	89.88
2nd, Grade cow over 36 months, Reid & Co	Carrie	73 4	3.9	3.8	2.82	6.53	87.9

CATTLE.

Shorthorns, Cow or Heifer, three years or over.—1st, W. C. Edwards & Co., Rockland.
Heifer, two years and under three.—1st, W. C. Edwards & Co.
Heifer, one year and under two.—1st, 2nd and 3rd, W. C. Edwards & Co.
Grades and Crosses, Steer, one year and under two.—1st, James Leask, Greenbank.
Steer, under one year.—1st and 2nd, James Leask.
Steer, two years and under three.—1st, T. G. Graham, Mosgrove.
Heifer, under two years.—1st and 2nd, James Leask.

SHEEP.

Lincolns, Wether, under one year.—1st, 2nd and 3rd, John T. Gibson, Denfield.
Three Wethers, under one year.—1st and 2nd, John T. Gibson.
Ewe, under one year.—1st, 2nd and 3rd, John T. Gibson.
Leicesters, Wether, under one year.—1st, A. W. Smith, Maple Lodge.
Ewe, under one year.—1st, 2nd and 3rd, A. W. Smith.
Oxfords, Ewe, under one year.—1st and 2nd, John A. Richardson, South March.
Shropshires, Wether, under one year —1st, 2nd and 3rd, D. G. Hanmer, Mount Vernon.
Three Wethers, under one year.—1st, D. G. Hanmer.
Ewe, under one year.—1st, 2nd and 3rd, D. G. Hanmer.
Dorset Horned, Wether, under one year.—1st, R. H. Harding, Thorndale.
Ewe, under one year.—1st, 2nd and 3rd, R. H. Harding.
Dressed Carcass.—1st, R. H. Harding.
Grades or Crosses, Three Grade Wethers, under one year.—1st, D. G. Hanmer.
Ewe, under one year.—1st, John T. Gibson ; 2nd, D. G. Hanmer.
Dressed Carcass.—1st and 2nd, D. G. Hanmer.

SWINE.

Berkshires, Barrow, under six months.—1st, R. Reid & Co., Hintonburg.
Sow, over six months and under nine months.—1st, R. Reid & Co.
Sow, under six months.—1st, 2nd and 3rd, R. Reid & Co.
Yorkshires, Barrow, six months and under nine months.—1st and 2nd, J. E. Brethour, Burford.
Barrow, under six months.—1st and 2nd, J. E. Brethour.
Sow, six months and under nine months.—1st, 2nd and 4th, J. E. Brethour ; 3rd, R. Reid & Co.
Sow, under six months —1st, 2nd and 3rd, J. E. Brethour ; 4th and 5th, R. Reid & Co.
Tamworths, Sow, six months and under nine months.—1st and 2nd, R. Reid & Co.
Sow, under six months.—1st and 2nd, R. Reid & Co.
Grades and Crosses, Barrow, six months and under nine months.—1st, H. Stewart.
Barrow, under six months.—1st, H. Stewart.
Export Bacon Hogs.—1st, 2nd, 4th and 5th, J. E. Brethour ; 3rd, 7th, 8th, 9th and 10th, R. Reid & 6th, Wm. Ormiston.
Grades and Crosses 1st, H. Stewart
Three Best Export Bacon Hogs.—1st, J. E. Brethour ; 2nd. R. Reid & Co.
Three Pure Bred Dressed Carcasses.—1st, 2nd and 4th, J. E. Brethour ; 2nd, 5th and 6th, R. Reid & Co ; 7th, W. Ormiston, jr.
Grades or Crosses.—H. Stewart.
Three Dressed Carcasses.—1st, J. E. Brethour ; 2nd, R. Reid & Co.; 3rd, W. Ormiston, jr.

PRIZE WINNERS AT OTTAWA, 1903.

LIGHT BRAHMA.

Cock.—1, Fortier & Nantel; 2 and 4, C. LaRose; 3. J. J. Pickard.
Hen.—1, A. Blyth; 2, Fortier & Nantel; 3 and 4. J. J. Pickard.
Cockerel.—1 and 2, Fortier & Nantel; 3 and 4, J. J. Pickard.
Pullet.—1, A. C. Blyth; 2, C. LaRose; 3, Fortier & Nantel; 4, J. J. Pickard.

DARK BRAHMA.

Cock.—1, L. Sage; 2. Fortier & Nantel.
Hen.—1, L. Sage; 2, Fortier and Nantel.
Cockerel.—1 and 2, Fortier & Nantel; 3, L. Sage.
Pullet.—1, L. Sage; 2 and 3, Fortier & Nantel.

BUFF COCHIN.

Cock.—1, Fortier & Nantel; 2, A. W. Bell.
Hen.—1, Fortier & Nantel; 2, A. W. Bell.
Cockerel.—1, 2 and 4, A. W. Bell; 3, Fortier & Nantel.
Pullet.—1 and 2, A. W. Bell; 3 and 4. Fortier & Nantel.

PARTRIDGE.

Cock.—1, R. Oke; 2, G. & J. Bogue; 3, Fortier & Nantel; 4, Latta Bros.
Hen —1, R. Oke; 2, G. & J. Bogue; 3 and 4 Fortier & Nantel.
Cockerel.—1, R. Oke; 2, G. & J. Bogue; 3 and 4, Fortier & Nantel.
Pullet.—1. R. Oke; 2, G. & J. Bogue; 3, Latta Bros ; 4, Fortier & Nantel.

BLACK COCHINS.

Cock.—1 and 2, Latta Bros.
Hen.—1 and 3, Latta Bros.; 2, Fortier & Nantel.
Cockerel.—1 and 3, Latta Bros ; 2, Fortier & Nantel.
Pullet.—1 and 2, Latta Bros , 3, Fortier & Nantel.

WHITE COCHIN.

Cock.—1, G. & J. Bogue; 2, Fortier & Nantel.
Hen.—1, G. & J. Bogue; 2 and 3, Fortier & Nantel.
Cockerel.—1 and 2, Fortier & Nantel.
Pullet.—1 and 2, Fortier & Nantel.

WHITE LANGSHANS.

All to W. J. Teale.

O. A. C. LANGSHANS.

Cock.—1 and 2, R. McCurdy; 3, E. Dewey.
Hen.—1 and 2, R. McCurdy; 3. E. Dewey.
Cockerel.—1 and 3, R. McCurdy; 2, E. Dewey.
Pullet.—1 and 3, R. McCurdy; 2, E. Dewey.

BLACK JAVA.

Cock—1, G. & J. Bogue; 2 and 4, C. J. Daniels; 3, W. H. Reid.
Hen.—1, R. Oke; 2, G. & J. Bogue; 3, W. H. Reid.
Cockerel.—1, R. Oke; 2 and 4, W. H. Reid; 3, C. J. Daniels.
Pullet.—1, W. H. Reid; 2, G. & J. Bogue; 3, C. J. Daniels.

MOTTLED JAVA.

Cock.—1, R. Oke; 2, W. H Reid; 3, C. J. Daniels.
Hen.—1 and 3, W. H. Reid; 2, R. Oke.
Cockerel.—1, R. Oke; 2, G. & J. Bogue; 3, W. H. Reid.
Pullet.—1, R. Oke; 2, G. & J. Bogue; 3 and 4, W. H. Reid.

S. G. DORKING.

Cock.—1, Stewart & Son; 2, J. H. Warrington; 3, W. H Reid; 4, Jas. A. Neilson.
Hen.—1, G. & J. Bogue; 2, Stewart & Son; 3, J. H. Warrington.
Cockerel.—1, J. H. Warrington.
Pullet.—1, Stewart & Son; 2, J. H. Warrington.

COLORED DORKINGS.

Cock.—1 and 2, Stewart & Son.
Hen.—1 and 3, Stewart & Son; 2, J. H. Warrington.
Cockerel.—1, J. H. Warrington.
Pullet.—J. H. Warrington; 2, Stewart & Son.

WHITE DORKINGS.

All to J. H. Warrington.

BARRED ROCKS.

Cock.—1 and 2, Cosh & Co.; 3, Jas. Walker; 4, F. A. James.
Hen.—1 and 2, Cosh & Co.; 3, Armstrong Bros.; 4, Jas. Walker.
Cockerel.—1, Cosh & Co.; 2, R. Mackay; 3, Armstrong Bros.; 4, Alpaugh & Gow.
Pullet.—1, S. Short; 2 and 3, Cosh & Co; 4, F. A. James.
Best Barred Rock, cock, hen, cockerel, pullet, Cosh & Co.

WHITE PLYMOUTH ROCKS.

Cock.—1, H. H. Wallace; 2, J. H. Warrington; 3, F. A. Andrews; 4, W. H. Bessey.
Hen.—1, W. H. Bessey; 2, J. H. Warrington.
Cockerel.—1 and 2, F. A. Andrews; 3 and 4, W. H. Bessey.
Pullet.—1, W. H. Bessey; 2 and 4 H. H. Wallace; 3, F. A. Andrews.

BUFF PLYMOUTH ROCKS.

Cock.—1, D. Cummings; 2, 3 and 4, C. J. Daniels.
Hen.—1, D. Cummings; 2, 3 and 4, C. J. Daniels.
Cockerel.—1 and 4, C. J. Daniels; 2 and 3, D. Cummings.
Pullet.—1 and 2, D. Cummings; 3 and 4, C. J. Daniels.

GOLDEN WYANDOTTE.

Cock.—1, A. W. Graham. *Hen.*—1, C. LaRose; 2, C. J. Daniels.
Cockerel.—1 and 2, P. F. McGregor; 3, C. J. Daniels; 4, A. W. Graham.
Pullet.—1 and 2, P. F. McGregor; 3, A. Delcorde; 4, A. W. Graham.

SILVER WYANDOTTE.

Cock.—1, C. J. Daniels. *Hen.*—1, C. J. Daniels; 2 and 3, Hintonburg Poultry Yards.
Cockerel.—1 and 2, G. & J. Bogue; 3, T. C. McGinnis; 4, F. J. Blake.
Pullet.—1 and 2, Hintonburg Poultry Yards; 3, F. J. Blake.

BUFF WYANDOTTES.

Cock.—1, S. T. Bartlett; 2, A. W. Graham; 3, W. H. Reid; 4, G. Higman.
Hen —1, W. H. Reid; 2, G. Higman; 3, Cosh & Co.; 4, S. T. Bartlett.
Cockerel.—1 and 2, S. T. Bartlett; 3, W. H. Reid; 4, G. Higman.
Pullet.—1, A. W. Graham; 2, Cosh & Co.; 3 and 4, S. T. Bartlett.

WHITE WYANDOTTES.

Cock.—1, T. F. Kingsmill; 2, J. H. Warrington; 3 and 4, J. R. K. Bristol.
Hen.—1, J. F. Kingsmill; 2, G. Higman; 3, Stanley Poultry Yards; 4, J. H. Warrington.
Cockerel.—1 and 2, T. F. Kingsmill; 3, J. H. Warrington; 4, G. Higman.
Pullet.—1, G. Higman; 2 and 4, T. F. Kingmill; 3, J. H. Warrington.

SPANISH.

Cock.—1 and 2, J. H. Warrington; 3 and 4, Alpaugh & Gow.
Hen.—1st and 2nd, J. H. Warrington; 3rd, G. & J. Bogue; 4th, Alpaugh & Gow.
Cockerel—1st and 3rd, G. & J. Bogue; 2nd and 4th, J. H. Warrington.
Pullet.—1st and 3rd, J. H. Warrington; 2nd and 4th, G. & J. Bogue.

ANDALUSIAN.

Cock—1st and 2nd, Cosh & Co.; 3rd, C. LaRose.
Hen.—1st and 2nd, Cosh & Co; 3rd and 4th, C. LaRose.
Cockerel.—1st and 2nd, Cosh & Co.; 3rd and 4th, C. LaRose.
Pullet.—1st and 2nd, Cosh & Co., 3rd and 4th, C. LaRose.

BLACK MINORCA.

Cock.—1st and 2nd, R. Durston; 3rd, E. Frith; 4th, Wm. Wallace.
Hen.—1st and 2nd, E. Durston; 3rd and 4th, Hintonburg Poultry Yards.
Cockerel.—1st, R. Durston; 2nd, A. Coffee; 3rd, A. Delcorde; 4th, E. R. Frith.
Pullet.—1st and 2nd, R. Durston; 3rd, Hintonburg Poultry Yards; 4th, A. Delcorde.

WHITE MINORCA.

Cock—1st, H. Dunne.
Hen.—1st and 3rd, H. Dunne; 2nd, G. & J. Bogue.
Cockerel.—1st and 2nd, H. Dunne; 3rd, W. M. Osborne.
Pullet.—1st, 3rd and 4th, H. Dunne; 2nd, G. & J. Bogue.

S. C. WHITE LEGHORN.

Cock.—1st and 4th, D. McKellar; 2nd, R. C. Coates; 3rd, Jno. J. Gill.
Hen—1st and 3rd, D. McKellar; 2nd, R. C. Coates; 4th, R. C. Coates.
Cockerel.—1st, D. McKellar; 2nd, R. C. Coates; 3rd, Jas. McGurran & Cunningham.
Pullet.—1st and 3rd, D. McKellar; 2nd, R. C. Coates; 4th, J. McGurran & Cunningham.

S. C. BROWN LEGHORN.

Cock.—1st, W. J. Taggart; 2nd, H. F. Becker; 3rd, Waterloo Poultry Yards; 4th, Stewart & Son.
Hen.—1st and 4th, W. J. Taggart; 2nd, H. F. Becker; 3rd, Waterloo Poultry Yards.
Cockerel.—1st and 2nd, H. F. Becker; 3rd Waterloo Poultry Yards; 4th, Jno. Harrington.
Pullet—1st, H. F. Becker; 2nd and 3rd, W. J. Taggart; 4th, Jno. Harrington.

BLACK LEGHORN.

Cock.—1st and 3rd, W. M. Osborne; 2nd, C. J. Daniels.
Hen—1st and 2nd, W. M. Osborne; 3rd, C. J. Daniels.
Cockerel.—1st, C. J. Daniels; 2nd and 3rd, W. M. Osborne.
Pullet.—1st, C. J. Daniels; 2nd, 3rd and 4th, W. M. Osborne.

BUFF LEGHORNS.

Cock.—1st and 2nd, G. Berner ; 3rd, W. H. Reid ; 4th, Jno. O. Allan.
Hen—1st and 3rd, G. Berner ; 2nd, W. H. Reid.
Cockerel.—1st, Jno. Allan ; 2nd, P. H. Roos ; 3rd and 4th, G. Berner.
Pullet.—1st, P. H. Roos ; 2nd, G. Berner ; 3rd, Jno. O. Allan.

R. C. BROWN LEGHORNS.

Cock.—1st, G. & J. Bogue ; 2nd, H. R. Tozer ; 3rd, Stewart Bros.
Hen.—1st, H. R. Tozer ; 2nd, Stewart & Son ; 3rd, G. & J. Bogue.
Cockerel.—1st, G. & J. Bogue ; 2nd, H. R. Tozer.
Pullet.—1st, H. R. Tozer ; 2nd, G. & J. Bogue.

A. O. V. R. C. LEGHORNS.

Cock.—1st, G. & J. Bogue ; 2nd, Stewart & Son ; 3rd, Alpaugh & Gow.
Hen.—1st, G. & J. Bogue ; 2nd, R. Oke ; 3rd, Stewart & Son ; 4th, Alpaugh & Gow.
Cockerel.—1st, G. & J. Bogue ; 2nd, Stewart & Son ; 3rd and 4th, Alpaugh & Gow.
Pullet.—1st, R. Oke ; 2nd, Stewart & Son ; 3rd, G. & J. Bogue ; 4th, Alpaugh & Gow.

BLACK AND RED GAMES.

Cock.—1st and 2nd, Wm. Barber ; 3rd, Fortier & Nantel.
Hen.—1st and 3rd, Wm. Barber ; 2nd, Fortier & Nantel.
Cockerel.—1st and 2nd, Wm. Barber ; 3rd, Fortier & Nantel.
Pullet.—1st and 2nd, Wm. Barber ; 3rd, Fortier & Nantel.

BROWN RED GAME.

Cock, Hen, Cockerel and Pullet.—All to Wm. Barber.

DUCKWING GAME.

All to Wm. Barber.

PYLE GAME.

Cock.—1st, Wm. Barber.
Hen—1st, 2nd and 3rd, Wm. Barber.
Cockerel.—1st, G. J. White , 2nd and 3rd, Wm. Barber.
Pullet.—1st, 2nd and 3rd, Wm. Barber.

C. INDIAN GAME.

Cock.—1st, D. Cumming.
Hen.—1st, D. Cumming.
Cockerel.—1st, J. Pritchard.
Pullet.—1st, D. Cumming ; 2nd, J. Pritchard.

A. O. V. GAME,

Cock.—1st, Fortier & Nantel ; 2nd, C. J. Daniels.
Hen.—1st, Fortier & Nantel ; 2nd, C. J. Daniels.
Cockerel.—1st, G. & J. Bogue ; 2nd, C. J. Daniels ; 3rd, Fortier & Nantel.
Pullet—1st, Fortier & Nantel ; 2nd, C. J. Daniels ; 3rd, G. & J. Bogue.

O. E. OR PIT GAME.

Cock.—1st, 2nd and 3rd, E. H. Benjamin. *Hen.*—1st, 2nd and 3rd, E. H. Benjamin.
Cockerel.—1st, 2nd and 3rd, E. H. Benjamin ; 4th, J. H. Warrington.
Pullet.—1st, 2nd and 3rd, E. H. Benjamin ; 4th, J. H. Warrington.

BLACK HAMBURG.

Cock.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel.
Hen.—1st and 4th, R. Oke ; 2nd, W. H. Reid ; 3rd, Fortier & Nantel.
Cockerel.—1st and 3rd, R. Oke ; 2nd, Fortier & Nantel.
Pullet.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel.

PENCILED HAMBURGS.

Cock.—1st and 2nd, R. Oke ; 3rd, Stewart & Son ; 4th, J. A. Neilson.
Hen.—1st and 2nd, R. Oke ; 3rd, J. A. Neilson ; 4th, Stewart & Son.
Cockerel.—1st and 2nd, R. Oke ; 3rd, Stewart & Son ; 4th, J. A. Neilson.
Pullet.—1st and 2nd, R. Oke ; 3rd, Stewart & Son ; 4th, J. A. Neilson.

GOLDEN SPANGLED HAMBURG.

Cock.—1st and 2nd, R. Oke ; 3rd, J. A. Neilson.
Hen.—1st and 2nd, R. Oke ; 3rd, Stewart & Son ; 4th, J. A. Neilson.
Cockerel.—1st and 2nd, R. Oke *Pullet.*—1st and 2nd, R. Oke ; 3rd, J. A. Neilson.

SILVER SPANGLED HAMBURG.

Cock.—1st, R. Oke ; 2nd, Fortier & Nantel.
Hen.—1st and 2nd, R. Oke ; 3rd, Stewart & Son ; 4th, O. Cumming.
Cockerel.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel.
Pullet.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel.

W. C. B. POLAND.

Cock.—1st and 3rd, W. McNeil ; 2nd, D. S. Cullen ; 4th, Fortier & Nantel.
Hen.—1st, Wm. McNeil ; 2nd and 3rd, Fortier & Nantel.
Cockerel.—1st and 2nd, W. McNeil ; 3rd, Fortier & Nantel ; 4th, G. & J. Bogue.
Pullet.—1st, G. & J. Bogue ; 2nd and 3rd, Wm. McNeil ; 4th, G. & J. Bogue.

GOLDEN POLAND.

Cock.—1st and 2nd, W. McNeil ; 3rd, Fortier & Nantel ; 4th, G. & J. Bogue.
Hen.—1st and 3rd, W. McNeil ; 2nd, Fortier & Nantel ; 4th, G. & J. Bogue.
Cockerel.—1st and 3rd, W. McNeil ; 2nd, Fortier & Nantel ; 4th, G. & J. Bogue.
Pullet.—1st and 4th, W. McNeil ; 2nd and 3rd, Fortier and Nantel.

SILVER POLAND.

Cock.—1st, Stewart & Son ; 2nd and 3rd, W. McNeil ; 4th, Fortier and Nantel.
Hen.—1st and 2nd, W. McNeil ; 3rd, Fortier & Nantel.
Cockerel.—1st and 3rd, W. McNeil ; 2nd and 4th, Fortier & Nantel.
Pullet.—1st and 2nd, W. McNeil ; 3rd and 4th, Fortier & Nantel.

A.O.V. POLAND.

Cock.—1st and 2nd, W. McNeil ; 3rd and 4th, Fortier & Nantel.
Hen.—1st and 2nd, W. McNeil ; 3rd and 4th, Fortier & Nantel.
Cockerel.—1st and 2nd, W McNeil ; 3rd, Fortier & Nantel.
Pullet.—1st and 3rd, W. McNeil ; 2nd and 4th, Fortier & Nantel.

HOUDAN.

Cock.—1st, G. & J. Bogue ; 2nd, A. G. Marshall. *Hen.*—1st, G. & J. Bogue.
Cockerel.—1st and 2nd, G. & J. Bogue ; 3rd and 4th, Wm. Henry.
Pullet.—1st, G. & J. Bogue ; 3rd, A. G. Marshall.

RED CAPS.

Cock.—1st and 2nd, C. J. Daniels.
Hen.—1st and 2nd, C. J. Daniels ; 3rd, J. H. Warrington ; 4th, G. & J. Bogue.
Cockerel.—1st, G. & J. Bogue ; 2nd, C. J. Daniels. *Pullet.*—1st, G. & J. Bogue.

ORPINGTON.

Cock.—1st, C. J. Daniels. *Hen.*—1st and 2nd, C. J. Daniels ; 3rd, C. C. Olmstead.
Cockerel.—1st, Cosh & Co. ; 2nd, C. J. Daniels ; 3rd, P. H. Ross ; 4th, T. J. Graham.
Pullet.—1st, T. J. Kingsmill ; 2nd, C. J. Daniels ; 3rd, D. S. Cullen ; 4th, P. H. Ross.

A. O. V. FOWL.

Cock.—1st and 4th, G. & J. Bogue ; 2nd, R. Oke ; 3rd. F. C. McGinnis.
Hen.—1st and 2nd, G. & J. Bogue ; 3rd and 4th, R. Oke.
Cockerel.—1st and 3rd, R. Oke ; 2nd and 4th, G. & J. Bogue.
Pullet.—1st, R. Oke ; 2nd and 3rd, G. & J. Bogue ; 4th, Fortier & Nantel

BLACK AND RED BANTAMS.

Cock.—1st, W. H. Reid. *Hen.*—1st, Oakwood Farm ; 2nd, W. H. Reid ; 3rd and 4th, Wm. Barber.
Cockerel.—1st and 2nd, Oakwood Farm.
Pullet.—1st and 3rd, Oakwood Farm ; 2nd and 4th, Wm. Barber.

BROWN RED BANTAMS.

Cock.—1st, Wm. Barber ; 2nd, W. H. Reid.
Hen.—1st and 2nd, Wm. Barber ; 3rd, W. H. Reid ; 4th, H. R. Tozer.
Cockerel.—1st and 3rd, Wm. Barber ; 2nd, G. J. White ; 4th, H. R. Tozer.
Pullet.—1st, G. J. White ; 2nd and 3rd, Wm. Barber ; 4th, H. R. Tozer.

DUCKWING BANTAMS.

Cock.—1st and 2nd, Wm. Barber ; 3rd, W. H. Reid.
Hen.—1st and 2nd, Wm. Barber ; 3rd, W. H. Reid.
Cockerel.—1st and 2nd, Wm. Barber ; 3rd, W. H. Reid.
Pullet.—1st and 3rd, Wm. Barber ; 2nd, W. H. Reid.

PYLE BANTAMS.

Cock.—1st, W. Barber ; 2nd, W. H. Reid ; 3rd, Wm. Barber.
Hen.—1st and 2nd, Wm. Barber ; 3rd, W. H. Reid.
Cockerel.—1st, 2nd and 3rd, Wm. Barber. *Pullet.*—1st, 2nd and 3rd, Wm. Barber.

GOLDEN SEBRIGHT BANTAMS.

Cock.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel ; 4th, C. La Rose.
Hen.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel ; 4th, C. La Rose.
Cockerel.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel.
Pullet.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel ; 4th, C. La Rose

SILVER BANTAMS.

Cock.—1st and 2nd, R. Oke. *Hen.*—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel.
Cockerel.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel.
Pullet.—1st, Fortier & Nantel ; 2nd and 3rd, R. Oke.

BLACK R. C. BANTAMS.

Cock.—1st and 2nd, R. Oke. *Hen.*—1st and 3rd, R. Oke ; 2nd, W. H. Reid.
Cockerel.—1st and 2nd, R. Oke ; 3rd, Fortier & Nantel.
Pullet.—1st and 2nd R. Oke ; 3rd, Fortier and Nantel.

BUFF COCHIN BANTAM.

Cock.—1st and 2nd R. Oke ; 3rd. W. Planet.
Hen.—1st and 2nd, R. Oke ; 3rd, Mrs. John I. Gill ; 4th, W. Planet.
Cockerel.—1st and 3rd, Mrs. J. I. Gill ; 2nd, A. Depres.
Pullet.—1st and 2nd, R. Oke ; 3rd, W. Planet ; 4th, Mrs. J. I. Gill.

BLACK OR WHITE COCHIN BANTAM.

Cock.—1st and 2nd, W. McNeil; 3rd, Stewart & Son; 4th, H. R. Tozer.
Hen.—1st and 2nd, W. McNeil; 3rd, Fortier & Nantel; 4th, Stewart & Son.
Cockerel.—1st, G. J. White; 2nd and 4th, W. McNeil; 3rd, Fortier & Nantel.
Pullet.—1st and 2nd, W. McNeil; 3rd, Fortier & Nantel; 4th, G. J. White.

JAPANESE BANTAMS.

Cock.—1st and 2nd, R. Oke; 3rd, Fortier & Nantel.
Hen.—1st and 2nd, R. Oke; 3rd, Fortier and Nantel.
Cockerel.—1st and 2nd, R. Oke. *Pullet.*—1st and 2nd, R. Oke; 3rd, Fortier and Nantel.

A. O. V. BANTAM.

Cock.—1st, R. Oke; 2nd, W. H. Reid.
Hen.—1st and 2nd, R. Oke; 3rd, Fortier & Nantel.
Cockerel.—1st and 2nd, R. Oke; 3rd, Fortier & Nantel.
Pullet—1st and 2nd, R. Oke; 3rd, Fortier & Nantel.

BRONZE TURKEY.

Cock.—1st, A. Thompson; 2nd, D. Cumming.
Hen.—1st, D. Cumming; 2nd, A. Thompson.
Cockerel.—1st, A. Thompson; 2nd and 3rd, D. Cumming.
Pullet.—1st, D. Cumming; 2nd, A. Thompson.

WHITE TURKEY.

Cock.—1st, A. Thompson. *Hen.*—1st and 2nd, A. Thompson.
Cockerel.—1st and 2nd, A. Thompson; 3rd, D. Cumming; 4th, J. A. Robertson.
Pullet.—1st, D. Cumming; 2nd, A. Thompson.

A. O. V. TURKEY

Cock—1, A. Thompson. *Cockerel*—1, A. Thompson.
Hen—1, " " *Pullet*—1, "

TOULOUSE GEESE.

Gander—1 and 2, A. Thompson; 3, P. D. Sinclair; J. A. Richardson.
Goose—1 and 2, A. Thompson; 3, P. D. Sinclair; 4, J. A. Richardson.
Gander, 1902—1, A. Thompson; 2, D. Cumming; 3, P. D. Sinclair; 4, J. A. Richardson.
Goose, 1902—1, A. Thompson; 2, McMaster Bros.; 3, P. D. Sinclair.

EMBDEN GEESE.

Gander—1, A. Thompson; 2, D. Cumming; 3, McMaster Bros.; 4, J. A. Richardson.
Goose—1, A. Thompson; 2, D. Cumming; 3, McMaster Bros.; 4, J. A. Richardson.
Gander, 1902—A. Thompson. *Goose*, 1902—1, McMaster Bros.; 2, A. Thompson.

CHINA GEESE.

Gander—A. Thompson. *Gander*, 1902—1 and 2, A. Thompson.
Goose—1, D. Cumming; 2, A. Thompson. *Goose*, 1902—1 and 3, — Thompson; 2, D. Cumming.

A. O. V. GEESE.

Gander—1, McMaster Bros.; 2, A. Thompson. *Gander*, 1902—McMaster Bros.
Goose—1, McMaster Bros.; 2 and 3, A. Thompson. *Goose*, 1902—McMaster Bros.

ROUEN DUCK

Drake—1, Stewart & Son; 2, McMaster Bros *Duck*—1, Stewart & Son.
Drake, 1902—1, Stewart & Son; 2, D. Cumming; 3, A. Thompson; 4, McMaster Bros.
Duck, 1902—1, McMaster Bros.; 2, Stewart & Son; 3, A. Thompson; 4, D. Cumming.

PEKIN DUCK.

Drake—1, A. Thompson; 2, Stewart & Son. *Duck*—1, Stewart & Son; 2, A. Thompson.
Drake, 1902—1, Stewart & Son; 2, W. H. Reid; 3, D. Cumming; 4, A. Thompson.
Duck, 1902—1, D. Cumming; 2, Stewart & Son; 3, A. Thompson; 4, W. A. Reid.

AYLESBURY DUCK.

Drake—1, H. H. Wallace; 2, A. Thompson; 3, W. H. Reid; 4, Stewart & Son
Duck—1, H. H. Wallace; 2, W. H. Reid.
Drake, 1902—1, A. Thompson; 2, W. H. Reid; 3 and 4, Stewart & Son.
Duck, 1902—W. H. Reid; 2, Stewart & Son; 3, A. Thompson.

CAYUGA DUCK.

Drake—1, A. Thompson; 2, W. H. Reid; 3, D. Cumming.
Duck—1, W. H. Reid; 2, A. Thompson.
Drake, 1902,—1, G. & J. Bogue; 2, A. Thompsom; 3, W. H. Reid; 4, D. Cumming.
Duck, 1902,—1, G. & J. Bogue; 2, A. Thompson; 3, D. Cumming; 4, J. A. Neilson.

A. O. V. DUCK.

Drake,—1, A. Thompson. *Duck,*—1, A. Thompson. *Drake,* 1902—1, A. Thompson.

WHITE POUTER.

Cock,—1, Ottawa Pigeon Lofts; 2, W. H. Reid; 3, Price Currier & Bell.
Hen,—1, Ottawa Pigeon Lofts; 2, W. H. Reid; 3, Price Currier & Bell.

BLACK OR BLUE PIED POUTER.

Cock,—1, Price Currier & Bell ; 2, Fortier & Nantel.
Hen,—1, Price Currier & Bell ; 2, Fortier & Nantel.

POUTER A. O. C.

Cock,—1, Price Currier & Bell.
Hen,—1, Price Currier & Bell ; 2. Price Currier & Bell. *Best Pouter*—1, Price Currier & Bell.

CARRIER.

Cock—1, Geo. J. White ; 2, Robt. Strang ; 3, W. H. Reid.
Hen,—1, Geo. J. White ; 2, J. T. Isbell ; 3, Robt. Strang. *Best Carrier*,—Geo. J. White.

BARB.

Cock,—1, Price Currier & Bell ; 2, Robt. Strang ; 3, Price Currier & Bell.
Hen,—1, Price Currier & Bell ; 1, Geo. J. White ; 3, Burrmont Lofts.
Best Barb,—Price Currier & Bell.

RED OR YELLOW JACOBIN.

Cock,—1, Vic. Barber. *Hen*,—1, R. K. Barker ; 2, R. K. Barker ; 3, Ottawa Pigeon Lofts.

WHITE JACOBIN.

Cock,—1, R. K. Barker ; 2, Vic. Barber.
Hen,—1, R. K. Barker ; 2, Vic. Barber ; 3, Ottawa Pigeon Lofts.

A. O. C. JACOBIN.

Cock,—1, R. K. Barker ; 2, Price Currier & Bell ; 3, R. K. Barker.
Hen,—1, R. K. Barker ; 2, R. K. Barker ; 3, Burrmont Lofts. *Best Jacobin*,—R. K. Barker.

FANTAIL WHITE.

Cock,—1, R. K. Barker ; 2, Vic. Barber ; 3, R. K. Barker.
Hen,—1, R. K. Barker ; 2, R. K. Barker ; 3, Ottawa Pigeon Lofts.

FANTAIL A. O. C.

Cock,—1, R. K. Barker ; 2, Ottawa Pigeon Lofts ; 3, R. K. Barker.
Hen,—1, R. K. Barker ; 2, R. K. Barker ; 3, Ottawa Pigeon Lofts.

TUMBLER S. F.

Cock,—1, W. H. Reid ; 2, W. H. Reid ; 3, Price Currier & Bell.
Hen,—1, W. H. Reid ; 2, Price Currier & Bell ; 3, W. H. Reid. *Best S. F. Tumbler*,—W. H. Reid

TUMBLER L. F. C. L.

Cock.—1, Price Currier & Bell; 2, Ottawa Lofts; 3, W. H. Reid.
Hen.—1, Price Currier & Bell; 2, Ottawa Lofts; 3 Burrmont Lofts.

TUMBLER BOOTED.

Cock —1, Ottawa Pigeon Lofts; 2, J. T. Isbell; 3, Robert Strang.
Hen.—1, Robt. Strang; 2, J. T. Isbell; 3, Ottawa Pigeon Lofts.

ANTWERP.

Cock.—1, W. H. Reid; 2, W. H. Reid.

TURBIT RED OR YELLOW.

Cock.—1, Price Currier & Bell: 2, Ottawa Pigeon Lofts; 3, Burrmont Lofts.
Hen.—1, Ottawa Pigeon Lofts; 2, Price Currier & Bell; 3, Burrmont Lofts.

TURBIT BLUE OR BLACK.

Cock.—1, Ottawa Lofts, 2, J. T. Isbell; 3, Price Currier & Bell.
Hen.—1, J. T. Isbell ; 2, Price Currier & Bell ; Ottawa Lofts.

TURBIT A. O C.

Cock.—2, Price Currier & Bell. *Hen*.—Ottawa Lofts. *Best Turbit*.—Ottawa Pigeon Lofts.

OWLS, ENGLISH CHEQUERED.

Cock.—1, Price Currier & Bell ; 2, Price Currier & Bell.
Hen.—1, Price Currier & Bell ; 2, Price Currier & Bell.

A. O. C. OWL.

Cock.—1, Price Currier & Bell ; 2, Price Currier & Bell ; 3, J. T. Isbell.
Hen.—1, Price Currier & Bell ; 2, Price Currier & Bell ; 3, J. T. Isbell.
Best English Owl.—Price Currier & Bell.

AFRICAN OWL.

Cock.—1, Ottawa Lofts ; 2, R. K. Barker ; 3, J. T. Isbell.
Hen.—1, Ottawa Lofts ; 2, J. T. Isbell ; 3, Vic. Barber.
Best African Owl.—Ottawa Pigeon Lofts.

SWALLOW RED OR YELLOW.

Cock.—1, Robt. Strang ; 2, Price Currier & Bell ; 3, Ottawa Lofts. *Hen*.—1, Ottawa Lofts.

SWALLOW A. O. C.

Cock.—1, Ottawa Lofts ; 2, Ottawa Lofts ; 3, Robt. Strang.
Hen.—1, Ottawa Lofts ; 2, Price Currier & Bell. *Best Swallow*.—Ottawa Pigeon Loft.

ARCHANGEL LIVE STOCK.

Cock.—1, Ottawa Lofts; 2, Geo. J. White; 3, W. H. Reid.
Hen.—1, Ottawa Lofts; 2, W. H. Reid; 3, Geo. J. White.

BLACK MAGPIE.

Cock.—1, Ottawa Lofts; 2, Fortier & Nantel.
Hen.—1, Ottawa Lofts; 2, W. H. Reid; 3, Fortier & Nantel.

RED MAGPIE.

Cock.—1, W. H. Reid; 2, Ottawa Lofts; 3, Geo. J. White.
Hen.—1, W. H. Reid; 2, Geo. J. White; 3, Ottawa Lofts.

MAGPIE A. O. C.

Cock.—1, W. H. Reid; 2, Ottawa Lofts. *Hen.*—1, Ottawa Lofts; 2, Geo. J. White; 3, Ottawa Lofts.

NUN.

Cock.—1, Ottawa Lofts; 2, W. H. Reid. *Hen.*—1, Ottawa Lofts; 2, W. H. Reid; 3, Burrmont Lofts.

DRAGOON SILVER.

Cock.—1, W. H. Reid. *Hen.*—1, W. H. Reid.

DRAGOON A. O. C.

Cock.—1, Geo. J. White, 2, Robt. Strang; 3, W. H. Reid.
Hen.—1, Geo. J. White; 2, Robt. Strang; 3, W. H. Reid.

CHEQUERED SHOW HOMERS.

Cock.—1, Price Currier & Bell; 2, Price, Currier & Bell; 3, W. H. Reid.
Hen.—1, Price Currier & Bell; 2, W. H. Reid.

SHOW HOMERS A. O. C.

Cock.—1, Price Currier & Bell. *Hen.*—1, Price, Currier & Bell.

FLYING HOMER.

Cock.—1, Burrmont Lofts; 2, W. H. Reid. *Hen.*—1, W. H. Reid.

A. O. VARIETY.

Cock.—1, Price Currier & Bell; 2, Robt. Strang; 3, Price, Currier & Bell.
Hen.—1, Price Currier & Bell; 2, Fortier & Nantel; 3, Price, Currier & Bell.

PEA FOWL.

Pair.—1, Jno. A. Richardson; 2, Jno. A. Richardson.

PAIR DOVES.

1, Ottawa Lofts; 2, Robt. Strang; 3, Ottawa Lofts.

BELGIAN HARES, OVER 6 MOS.

Buck.—1, A. Delcorde; 2, A. Delcorde; 3 Geo. Thomas.
Doe.—1, A. Delcorde; 2, A. Delcorde; 3, Geo. Thomas.

BELGIAN HARE, UNDER 6 MO.

Buck.—1, A. Delcorde; 2, A. Delcorde. *Doe.*—1, A. Delcorde; 2, A. Delcorde.

PROVINCIAL WINTER FAIR—1903.

Following is a list of officers and directors, judges, etc. for the Provincial Winter Fair of 1903.

OFFICERS.

President.....A. W. SMITH, Maple Lodge.
Vice-President.....F. W. HODSON, Ottawa.
Secretary-Treasurer.....A. P. WESTERVELT, Toronto.

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CATTLE—A. W. Smith, Henry Wade, Toronto; Arthur Johnston, Greenwood; G. W. Clemons, St. George; John Bright, Myrtle; A. F. H. Jones, Guelph; J. M. Duff, Guelph; John M. Tyson, Guelph; John McCorkindale, Guelph; G. C. Creelman, Toronto.

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SWINE—Wm. Jones, Geo. Green, Fairview; Prof. G. E. Day; Thos. Teasdale, Concord; G. B. Hood, Guelph; J. E. Brethour, Burford; D. C. Flatt, Mill Grove, Ont.

DAIRY—Prof. G. E. Day, G. W. Clemons, Prof. H. H. Dean, R. G. Murphy, Brockville; Henry Wade; G. C. Creelman.

POULTRY—Wm. McNeil, London; A. W. Tyson, Guelph; F. W. Hodson; W. R. Graham, Guelph; Allan Bogue, London; F. C. Hare, Ottawa.

RECEPTION—Hon. John Dryden, F. W. Hodson; A. W. Smith; Dr. Jas. Mills; Mayor of Guelph; A. F. H. Jones; J. M. Duff; Arthur Johnston, Col. McGillivray.

SUPERINTENDENT OF BUILDINGS—D. G. Hanmer, Mount Vernon.

ASSISTANT SUPERINTENDENT—J. H. Saunders, London.

JUDGES.

CATTLE—Wm. Creelock, Toronto; J. T. Gibson, Denfield. Reserve, Arthur Tyson, Guelph, and John Isaac, Markham.

SHEEP—Southdowns, Shropshires and Dorset Horn—Prof. C. E. Curtis, Ames, Iowa. Reserve, Robert Miller, Stouffville.

Cotswolds, Leicesters and Lincolns—T. Hardy Shore, Glanworth. Reserve, Jas. Snell, Clinton.

Sweepstakes—Henry Arkell, Arkell; T. Hardy Shore. Referee, Prof. G. E. Day.

Oxfords, Suffolks and Hampshires—Henry Arkell, Arkell. Reserve, Jas. Tolton, Walkerton.

Grades and Crosses—Henry Arkell, T. Hardy Shore. Referee, Prof. G. E. Day.

SWINE—Poland Chinas, Chester Whites, Duroc Jerseys and Essex—Thos. Teasdale, Concord. Reserve, G. B. Hood, Guelph.

Yorkshires and Tamworths—Wm. Jones, Mount Elgin. Reserve, A. C. Hallman, Breslau.

Berkshires and Grades—R. H. Harding, Thorndale. Reserve, Robert Vance, Ida.

BACON HOGS ALIVE—Prof. G. E. Day, William Jones and C. W. Bowman, Ingersoll.

JUDGES DRESSED CARCASSES—Moved by Wm. McNeil, seconded by Wm. Jones, "That the judges on dressed carcasses be left in the hands of the Executive Committee." Carried.

DAIRY—Prof. H. H. Dean.

DRESSED POULTRY—W. R. Graham, Guelph, and F. C. Hare, Ottawa.

ESSAYS—Dr. Jas. Mills, Prof. G. E. Day and G. C. Creelman.

COMMITTEE IN CHARGE OF RINGS. Cattle—A. W. Smith, John Bright, Henry Wade, Arthur Johnston.

Sheep—Jas. Tolton, John Jackson, Col. McGillivray.

Swine—G. B. Hood, John Barber, Geo. Green.

Dairy—G. W. Clemons.

FINANCIAL STATEMENT OF THE ONTARIO PROVINCIAL WINTER FAIR, 1902.

RECEIPTS.

Entry fees—Cattle department	$300 00	
Sheep "	273 75	
Swine "	240 25	
Dressed poultry	44 50	$ 858 50
*Gate Receipts		1,855 45
Protest Money		5 00
Interest		29 53
Cattle Breeders' Association		1,931 04
Sheep Breeders' Association		1,275 00
Swine Breeders' Association		1,798 55

*$1,254.50 was paid as entry fees in Live Poultry department. See Financial Statement, Western Ontario Poultry Association.

FINANCIAL STATEMENT.—*Continued.*

EXPENSES.—*Continued.*

Advertisements in prize list		322 50
Dressed carcasses sold		947 14
Dressed poultry sold		169 05
Eastern Dairymen's Association, 1901		50 00
Special prize for turkey essay, 1901		3 00
Feed for poultry (error 1901)		13 45
Matthews Packing Company		25 00
Ingersoll Packing Company		50 00
Wm. Davies Company		100 00
Park Blackwell Company		50 00
Brantford Packing Company		50 00
Whyte Packing Company		50 00
Collingwood Meat Company		50 00
Holstein Specials		100 00
Prince of Wales' prize		50 00
Refund freight (error 1901)		14 00
Total		$9,797 21

EXPENDITURE.

Executive and committees		$216 04
Postage and stationery		165 30
Printing and advertising		758 20
Expenses cattle judges		33 10
" sheep judges		83 80
" swine judges		13 80
" dairy judges		33 75
" public meeting		39 00
Telegraph and telephone		45 78
Expenses superintendent and assistants		345 13
*Prizes—Cattle department	$1,257 50	
Sheep "	1,275 00	
Swine "	1,650 00	
Dairy "	675 00	
Dressed Poultry	261 00	
Prizes, 1901	11 00	
Essays, 1901	53 45	
		$5,182 95
Secretary's salary		350 00
Auditor, 1901		5 00
Lighting building		207 34
Typewriting and office work		368 73
Badges and prize ribbons		31 16
Auctioneer for carcasses		10 00
Dressed carcasses sold		974 18
Expenses block test		54 55
Dressed poultry sold		172 46
City of Guelph according to Agreement		260 00
Entry fees refunded		13 00
Fuel for furnace		64 00
Photographs for Report		17 50
Refunds to Exhibitors coming over a 100 miles		25 32
Commission on advertising		46 25
Legal services preparing agreement City of Guelph		21 00
Straw		52 82
Seating and rent of furniture		49 68
Repairing boiler and carcass track		13 00
Lumber, hardware, etc		87 66
Express, exchange, etc		24 97
Sundries		26 75
Protest money returned		5 00
Total		$9,797 21

(Signed) A. P. WESTERVELT, Treasurer.
(Signed) A. W. SMITH, President.
(Signed) J. M. DUFF, Auditor.

* $1,655.00 was given for prizes in Live Poultry department. See financial statement Poultry Association of Western Ontario.

RULES GOVERNING FRAUDS AND PENALTIES AT EXHIBITIONS.

At a meeting of the joint committee of representatives appointed at the annual meetings of the Dominion Cattle Breeders' Association, the Dominion Sheep Breeders' Association, and the Dominion Swine Breeders' Association, to revise the rules governing fraud and penalties therefor at exhibitions, a committee was appointed to act as part of a joint committee, with instructions to revise the rules governing fraud and penalties therefor in the by-laws of the Dominion Cattle Breeders' Association, the Dominion Sheep Breeders' Association, the Dominion Swine Breeders' Association, and in the rules governing the Winter Fair.

The meeting of the joint committee was held in the Palmer House, January 30th, 1903, at 6.30 p.m. There were present Messrs. Arthur Johnston, A. W. Smith, G. B. Hood, J. M. Gardhouse, John Jackson, Col. McGillivray J. E. Brethour, R. H. Harding, and A. P. Westervelt. Mr. Arthur Johnston was appointed Chairman, and Mr. A. P. Westervelt Secretary.

A draft of proposed changes was made by Col. McGillivray, which, after being amended, were unanimously adopted by this committee, and also by the Winter Fair Board, with a recommendation that the Boards of the Industrial Exhibition, Toronto, the Western Fair, London, the Central Canada Exhibition, Ottawa, and the Industrial Exhibition, Winnipeg, frame their rules in accordance therewith.

The rules suggested are as follows :

1. Any exhibitor lodging a protest, must make it in writing, and it must be delivered to the Secretary's assistant within six hours of the cause of protest. It must state plainly the cause of complaint or appeal, and must be accompanied by a deposit of $5, which sum may, in the discretion of the Board, be forfeited to the Association if the protest is not sustained, but this provision shall not preclude the right of any director or judge to bring any case of fraud in an exhibitor before the notice of the Board of Directors for their consideration, and in which case the Board reserves full right to act in the premises as fully and to the same extent as if a formal protest had been filed by an exhibitor.

2. Any person who shall attempt to interfere with or influence the judges, while in the discharge of their duties, or who shall, at any time, on the premises of the Association, use any contemptuous or abusive language to any judge, or within his hearing, in consequence of any award made by him, shall forfeit his right to any premiums to which he might otherwise be entitled, and may be excluded from exhibiting for one year thereafter. Judges are particularly requested to report any breach of this rule.

3. Upon the discovery of any fraud, deception, or dishonest practice in the preparation or ownership, or of any misrepresentation concerning any animal or article exhibited, which may have affected, or have attempted to affect, the decision of the judge or judges, or upon the discovery of any fraud or deception in making an entry, or entries, on the part of any exhibitor, the Board of Directors reserve the right to withhold the payment of any prizes awarded, and may prohibit any such party or parties from exhibiting in any class for one or more years, and may also publish the names of any such person or persons, as may be deemed most expedient, and any prize or prizes so withheld shall be awarded as though such exhibitor, or exhibitors, had not shown or exhibited.

4. If it be proved to the satisfaction of a majority of the Board of Directors that an exhibitor has been guilty of any of the above-named dis-

honorable practices at any other exhibition held in Canada, or the United States of America, or has falsified any pedigree, or otherwise dealt unjustly with the public, said member may be expelled from this Association by said Board of Directors.

5. In any cases where protests are entered for improper or malignant purposes, the Board shall exclude the party from exhibiting for two years thereafter.

6. Decision of judges shall be final, and no protest or appeal will be entertained except in cases where actual fraud is alleged against the judge.

It was also resolved that the form of application for entry should include a statement that the intending exhibitor agrees to be governed by the rules of the exhibition, and that he declare all statements made by him in the entry form to be true.

The meeting then adjourned.

REPORT

OF THE

REGISTRAR OF LIVE STOCK

OF THE

PROVINCE OF ONTARIO

1902.

DOMINION SHORTHORN BREEDERS' ASSOCIATION.
CANADIAN AYRSHIRE BREEDERS' ASSOCIATION.
CANADIAN HEREFORD BREEDERS' ASSOCIATION.
CANADIAN HACKNEY HORSE SOCIETY.
CLYDESDALE HORSE BREEDERS' ASSOCIATION.
SHIRE HORSE BREEDERS' ASSOCIATION.
HARNESS, HUNTER AND SADDLE HORSE SOCIETY.
CANADIAN HORSE BREEDERS' ASSOCIATION.

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO.)

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO:
PRINTED AND PUBLISHED BY L. K. CAMERON.
Printer to the King's Most Excellent Majesty.
1903.

WARWICK BRO'S & RUTTER, Printers.
TORONTO.

OFFICERS FOR 1903.

President..... .... WILLIAM LINTON, Aurora, Ont.
First Vice-President .... W. G. PETTIT, Freeman, Ont.
Second Vice-President .... A. W. SMITH, Maple Lodge, Ont.

Ex-Presidents—Life Members :

HON. JOHN DRYDEN, Brooklin, Ont. — RICHARD GIBSON, Delaware, Ont.
A. JOHNSTON, Greenwood, Ont. — JAMES RUSSELL, Richmond Hill.
ROBERT MILLER, Stouffville, Ont.

Honorary Life Members :

HON. H. M. COCHRANE, Hillhurst, Que. — JOHN MILLER, Brougham, Ont.

Vice-Presidents from Provinces :

W. D. FLATT, Hamilton, Ont. — GEO. A. FAWCETT, Sackville, N.B.
F. G. BOVYER, Georgetown, P.E.I. — J. A. TURNER, Calgary, Alta.
W. H. LADNER, Ladner's Landing, B.C. — C. A. ARCHIBALD, Truro, N.S.
JAS. A. COCHRANE, Hillhurst, Que. — W. A. HEUBACH, Touchwood Hills, Assa.
JAS. BRAY, Longburn, Man.

Board of Directors :

C. LIST.	B. LIST.	A. LIST.
W. D. CARGILL, Cargill, Ont.	W. J. BIGGINS, Clinton, Ont.	JAS. M. GARDHOUSE, Highfield, Ont.
S. DYMENT, Barrie, Ont.	WM. B. WATT, Salem, Ont.	T. E. ROBSON, Ilderton, Ont.
JOHN ISAAC, Markham, Ont.	JAS. TOLTON, Walkerton, Ont.	EDWARD JEFFS, Bond Head, Ont.
GEO. RAIKES, Barrie, Ont.	H. SMITH, Hay, Ont.	J. G. WASHINGTON, Ninga, Man.
C. M. SIMMONS, Ivan, Ont.	JOHN DAVIDSON, Ashburn.	THOS. RUSSELL, Exeter, Ont.

Executive and Finance Committee: William Linton, Aurora ; W. G. Pettit, Freeman ; W. D. Flatt, Hamilton ; Arthur Johnston, Greenwood ; Robert Miller, Stouffville, Ont.

Delegates to Dominion Cattle Breeders' Association : John Isaac, Markham, Ont. ; T. E. Robson, Ilderton, Ont.

Delegates to Industrial Exhibition: Wm. Linton, Aurora ; Robert Miller, Stouffville, Ont.

Delegates to Western Fair : H. Smith, Hay, Ont. ; C. M. Simmons, Ivan, Ont.

Delegates to Central Fair, Ottawa : R. R. Sangster, Lancaster, Ont. ; D. McLaren, Dunmore, Ont.

Delegates to Provincial Exhibition, Halifax, N. S.: F. W. Thompson, Sackville, N.S. ; F. C. Dickie, Fort William, N. S.

Delegates to Provincial Exhibition, Fredericton, New Brunswick: Senator Josiah Wood, Sackville, N.B. ; Geo. A. Fawcett, Sackville, N.B.

Delegates to Provincial Exhibition, Prince Edward Island: C. C. Gardiner, Charlottetown, P.E.I. ; F. G. Bovyer, Georgetown, P.E.I.

Delegates to Winnipeg Industrial Exhibition : Hon. Thos. Greenway, Crystal City, Man. ; W. S. Lister, Middlechurch, Man.

Delegate to Calgary Exhibition : E. Osborne Reid, Cochrane, Alta.

Delegate to New Westminster Exhibition : W. H. Ladner, Ladner, B. C.

Secretary and Editor : (To whom all communications are to be sent), Henry Wade, Parliament Buildings, Toronto.

DOMINION SHORTHORN BREEDERS' ASSOCIATION.

DIRECTORS' MEETING.

The seventeenth annual meeting of the Directors of the Dominion Shorthorn Breeder's Association convened in the Palmer House, Toronto, January 26th, 1903, President Miller in the chair.

The minutes of the last directors' meeting were read and confirmed, and on motion the minutes of the last annual meeting were taken as read.

The Secretary-Treasurer then read his annual report, which was unanimously adopted.

A communication was read from Mr. Geo. H. Greig, Secretary of the Pure Bred Cattle Breeder's Association, Winnipeg, Man., stating that in compliance with suggestions contained in a letter received from the Dominion Shorthorn Breeders' Association they had nominated Mr. J. G. Washington, Ninga, Man., to the position as Director on the Shorthorn Board, and Mr. Jas. Bray, of Longburn, Man., was nominated for the position of Vice-President for Manitoba.

The President stated that this was a matter which would require to be dealt with in the election of officers tomorrow. He said there was some discontent in Manitoba in so far as they thought we managed everying here in Ontario, and as it was wished to do everything they could to benefit them, the executive, acting on behalf of the Association, thought it would be in the best interests of the Association to tell them they were willing that they should have a representative on this Board, and if they nominated some man that we were quite willing to have him here to represent them.

Mr. Wade said he attended a meeting of the Cattle Breeders' Association at the Winnipeg Industrial Exhibition, and the committee instructed him to do what he could to try and conciliate them and have them work in harmony with us. He saw that representation on our Board would satisfy them, and after returning he asked the executive to invite them to nominate some gentleman. thus allowing them to become a branch of the Dominion Shorthorn Association, They were going to form a Shorthorn Association of their own, but after he had asked them to nominate a man to represent them on the Board here they decided not to do so.

After some discussion the meeting unanimously agreed to support the nomination of J. G. Washington as director at the annual meeting.

The Secretary also stated that since he had been in Manitoba a Shorthorn Association had been formed, and he received a communication from Mr. F. W Brown, Secretary, saying their annual meeting did not take place until February and they would not be in a position to appoint directors to place on the Dominion Board until after the annual meeting of the Dominion Association, and asked that the Directors representing Manitoba be left blank.

It was the opinion of the meeting that Mr. Brown's letter could not be considered, but action should be taken on Mr. Greig's recommendation.

A letter was read from Mr. W. K. McNaught, President of the Industrial Exhibition, asking this Association to draft a resolution approving of the proposed Dominion Exhibition in Toronto in 1903.

The matter of grants to the various Provincial Exhibitions in the Province

was then taken up, and the amounts donated by this Association to the different exhibitions appear in the minutes of the annual meeting.

A letter was received from Mr. Beaumont Bopp, Secretary of the Victoria Provincial Exhibition, Victoria, B. C, asking for a grant, and also communications from Chas. W. Peterson and John A. Turner, Calgary, Alta., asking that they receive a further grant of $100 towards the prize list of their forthcoming Spring Show. The directors recommended that $100 be donated to Victoria, but no further amount be given to Calgary.

The next matter to come under discussion was the advisability of the Dominion Shorthorn Association taking five memberships of $100 each in the International Live Stock Exposition Chicago.

Mr. Miller, in explaining their reasons for wishing to take these memberships, said : You are no doubt aware that they are organizing the International Live Stock Exposition on a different footing than what it has been working on. The stock yards people conducted that show up to the present time ; they have paid everything that was necessary in the way of erecting buildings and paying premiums and expenses with regard to judges, and any income derived was from very meagre gate receipts, and they were so anxious to get the show established that for two years they did not collect any gate receipts, but last year they did not issue so many passes and collected a good deal of money. Now the Stock Yards say they do not intend to hold an exhibition of that kind always, and gave the management to understand it had to be organized; and they said: "We will put up another building at a cost of $100,000, and we will give you the use of the building free, but we want you as an association to get yourself in some kind of proper form and collect a fund of $100,000, and put it in a position that we will be enabled to call that a guarantee fund, that you will go on holding this exhibition." I was there at the time of the discussion and asked to give any experience I had, or any information I could on the subject of organization, and I suggested having members, and amongst others we thought of this plan : That they would float memberships, not stock, as it will not be a joint stock association ; that they float one thousand memberships at a cost of $100 each, and that they sell these memberships, as much as possible, amongst the cattle, horse, and sheep breeders throughout the country. Now, I may tell you they could collect that money in the city of Chicago, but we do not want them to do that ; we want that show placed on such a footing that it could be controlled and managed to a very great extent by the live stock breeders throughout this country ; so they are going to get as many members as they can throughout the United States and Canada before they offer any memberships in lump numbers to the financiers of Chicago. And where a man says he is willing to take ten or twenty-five memberships they are going to limit that man to one vote. The man with fifty memberships would only have one vote, the same as Mr. Gibson or any other man if he takes one membership, and a man cannot go there with more than his own vote and one proxy. Now I suggested to them I was safe in promising Canada would take twenty memberships, and I suggested to them that the Shorthorn Breeders' Association might take five memberships, or in other words grant $500 ; and I am going to ask you to grant this sum to that exhibition. You can grant it in any form you like ; you can suggest five representatives to have a membership each, but they would be life members, and the membership would expire at death The reason I think we should do that is this. They have in the past treated us very liberally in that exposition. We have had every encouragement to go there and show, and I have sometimes thought there was cause for jealously on the part of the Americans because we have got better treatment and more encouragement than they got themselves. Now this question of international trade between the two countries has been in

a delicate position for some time, and I thought we could take a step in advance and show these people that we did not want to be separated from them, but wished to encourage their plans. Now the very fact that we made the suggestion and said we would assist in bringing about the work, has been the means of keeping $100 registration fee from being placed on every animal sold and being registered in that country, because it was so nearly passed that the turn of a man's hand would have carried it, and if carried we would have had to pay $100 registration fee for every animal bred in Canada and sold to go to the States. Now I believe that was very much stopped by the influence of the Stock Yards people. And I am now going to ask you to assist me to-morrow to carry it when that is brought up at the annual meeting.

Messrs. Gibson, Flatt and several other members heartily approved of Mr. Miller's suggestion, and a resolution was framed to be submitted to the annual meeting.

A communication from Mr. A. P. Westervelt, Secretary of the Dominion Cattle Breeders' Association, was read by the President. Mr. Westervelt said he had been through the West looking about to see what he could do for the interests of the breeders. He came to the conclusion it would be advisable to have four representatives in that country who had the sanction of the live stock associations of this part of the Dominion, and that it would be advisable to have four men named and advertised as being ready to make selections of pure bred stock for shipment to that country. He stated it would be necessary to spend a little money in advertising, and proposed the amount of $600, and asked $500 from the Dominion Shorthorn Association.

The President thought this was a matter of very great importance, and one the Board would do well to consider, as the members of the association would derive a great deal of benefit from it.

Mr. Arthur Johnston said he was in hearty sympathy with the scheme as suggested by Mr. Westervelt, as the American breeders were getting the trade the Ontario breeders should have, and he thought this would help them to get a large portion of this Western trade. He was also of the opinion this Association should pay a large amount of the sum asked, as seven-eighths of the cattle shipped to the West were Shorthorns.

Mr. Harry Smith was not in accord with the proposition of granting any money, as he thought the buyers were more or less prejudiced.

Mr. Davidson said he had bought a number for the Western people, and he received instructions to buy the best no matter what a man's politics were.

Mr. Gibson said this letter has drawn our attention to the fact that Americans are being allowed to ship in Shorthorns without the tuberculin test, and without being recorded in our Canadian Herd Book. They can take the grades, he said, and run them in even if they won't record in our book, yet we cannot bring one from England without suffering all sorts of indignities.

Mr. Linton thought this Association could stop American cattle from being sent in here without being recorded in our book if they went about it right.

Mr. Flatt agreed with Mr. Gibson, and said the American Shorthorn Breeders' Association would not recognize the men who were shipping the cattle in there, and he thought it but right for this Association to take action whereby those cattle would require to be recorded in the Dominion Record before crossing the lines into the Northwest free of duty.

Mr. Wade stated he had thrown out about 20 in the last year that would not record.

Mr. Miller stated there were 100 stallions in Brandon that came in free of duty, and we would be doing a good thing for our breeders here and the people in that western country if we could stop this. They were taking horses in and

syndicating them and selling them for three times what they are worth, and he thought we should take care of our own market, as it was the best on the continent to-day, and was worth fostering.

Mr. Cargill concurred with the remarks of Mr. Miller.

A series of resolutions were then drawn up to be submitted to the annual meeting for approval.

ANNUAL MEETING.

The seventeenth annual meeting of the Dominion Shorthorn Breeders' Association was held in Richmond Hall, Toronto, on January 27th, 1903, at 11 a. m. The president, Mr. Robert Miller, occupied the chair.

The minutes of the last meeting were taken as read.

The President delivered a brief address, in the course of which he thanked the members of the Association for choosing him as their head for the last two years. He had considered it an honor to preside over so fine a body, and he thought it no flattery to say that the members of the Dominion Shorthorn Association managed their affairs better than any other live stock association on the continent of America.

REPORT OF THE SECRETARY AND EXECUTIVE COMMITTEE.

The Executive Committee beg to present the seventeenth annual report of business done by this Association, as furnished by the Secretary, for the year ending December 31st, 1902.

Registrations have steadily increased for the last six years. Vol. XVIII. has been issued, and contains the pedigrees of 4,304 bulls and 4,864 cows, total 9,168; and a change has been made in its compilation, a smaller type has been used, with closer composition, so that instead of being issued in two parts, as in Vols. 15, 16 and 17, the pedigrees have all been printed in one fair-sized volume. In this volume will be found a list of premiums awarded in 1901 at the several Provincial Exhibitions from the Atlantic to the Pacific.

The Ontario members were again, by resolution of the Annual Meeting, made members of the Dominion Cattle Breeders' Association at 50 cents per member. This amounted to $576.50, which amount was duly proportioned by the Executive Committee for prizes at the Guelph Winter Fair, for beef and dairy cattle. A further sum of $150 was given to the Maritime Provinces Winter Fair, held at Amherst, N.S., as specials; $1,000 was given to the Industrial Exhibition at Toronto; at London, $208; at Ottawa, $100; at Winnipeg, Man., $500; at Brandon, Man., $214; at Calgary, Alta., $100; at New Westminster, B.C., $100; at Sherbrooke, Que., $100; at St. John, N.B., $100; at Halifax, N.S., $100, and at Charlottetown, P.E.I., $100, or a total of $3,348.50.

This year has been the banner one for importations. We recorded in the 18th Volume no less than 80 bulls and 227 cows, a total of 307, brought out in 1901. In Volume XIX., now closed, we have 84 bulls and 436 cows, a total of 520, or 217 more than in 1901.

The names of the gentlemen who have imported in 1902 are as follows: H. Cargill & Son, Cargill; Hon. H. M. Cochrane, Hillhurst, Que.; H. J. Davis, Woodstock; Dominion Experimental Farm, Ottawa; Hon. G. A. Drummond, Point Claire, Que.; W. C. Edwards & Co., Rockland; W. D. Flatt, Hamilton; Alex. Isaac, Cobourg; George Isaac, Bomanton; John Isaac, Markham; Arthur Johnston, Greenwood; R. Mitchell & Son, Nelson; John McKenzie & Son,

Columbus; Sir William Mulock, Newmarket; R & S. Nicholson, Sylvan; J Eli Perkins, Petrolea; W. G. Pettit & Sons, Freeman; C. Rankin, Wyebridge J. G. Robbins & Son, Horace, Ind., U.S.; John Gardhouse, Highfield, and Wm. Smith, Columbus.

The following figures will demonstrate the demand for Shorthorns during the year 1902. There were 6,152 head known to be sold at public auction in Canada and the United States, realizing $1,602,023, an average of $260.40. Large numbers have also been disposed of at private sale. In future, animals imported from any foreign country, including Canada, into the United States, can only pass the customs free of duty if for breeding purposes by the importer. If intended for sale, duty must be paid.

One hundred dollars was contributed to the Dominion Cattle Breeders' Association towards the wages of a man for the Government car.

Shorthorn breeders in Manitoba and the Territories should be particularly careful to have the pedigrees of animals purchased in the United States recorded in the Dominion Herd Book before they come into this country, as many of the pedigrees in the American Herd Book are not eligible for record in our book, as they do not trace in all their crosses to imported cows. Special attention is called to this matter, as a number of cattle have been brought across the line during last two years whose pedigrees had to be rejected for the above reason.

The membership of the Association, divided into provinces, is as follows: Ontario, 1,319: Manitoba, 259; Assiniboia, 63; Alberta, 59; Saskatchewan, 15; British Columbia, 12; New Brunswick, 4; Quebec, 26; Prince Edward Island, 11; Nova Scotia, 17; United States, 9.

The office work has also increased very largely in every way, over 19,000 letters and communications having been sent out, and also 1,762 membership receipts.

Many of the breeders write to know why females are not numbered the same as males, and often return certificates to have them numbered. The explanation is simple. Pedigrees of females are all printed alphabetically under their owners' names, which are also in the Herd Book. If breeders sent in their registrations at different times during the year the numbers of their cows would be all mixed up and would cause great confusion; hence we cannot number them consecutively until the volume is completed.

All pedigrees shall be signed by the breeder, or in case of death, by a proper representative. The breeder of an animal is the owner of the dam at the time of service.

We have received since the last meeting Vols. 51, 52 and 53 of the American Shorthorn Herd Book, and Vol. 48 of the English Shorthorn Herd Book as exchanges.

In 1898 the annual fees were reduced to $2.00 per annum, which has resulted in a very large increase in membership, consequently circulating more of the Herd Books amongst the breeders. The penalty fees have also been reduced —to members, from $1.75 to $1.00; and for non-members, from $2.25 to $1.75. The time limit was changed in 1897 to two years instead of eighteen months.

A list of errors is made in each volume, which should be marked in red ink in the volume mentioned. We also hope breeders will furnish us with any catalogue of sales that may be made during the year.

Your committee would call particular attention to the rule requiring all calves born to be recorded before they are twenty-four months old. A penalty fee will be charged after that age. Attention is also called to the clause of the Constitution which requires that "a member must pay up all his fees in arrears before he can resign"; and to another clause, "THAT WHEN BOOKS AND DOCUMENTS ARE MAILED, PROPERLY PREPAID, THE DUTIES OF THE ASSOCIATION ARE

FULFILLED, AND SHOULD A VOLUME OR PEDIGREE BE LOST IN THE MAIL, DUPLICATE COPIES WILL HAVE TO BE PAID FOR.

Registrations. In 1902 we paid for 9,980 registrations and 3,883 changes of ownership and duplicate certificates; against, in 1901, 8,874 registrations and 3,019 changes of ownership; against, in 1900, 7,990 registrations and 3,397 changes of ownership; against, in 1899, 7,068 registrations and 2,006 changes of ownership and duplicate certificates; against, in 1898, 5,386 registrations, 5,555 certificates, and 1,064 changes of ownership; against, in 1897, 4,128 registrations, 4,246 certificates and 620 changes of ownership; against, in 1896, 2,957, registrations, 3,017 certificates and 379 changes of ownership; against, in 1895, 3,000 registrations, 3,100 certificates and 450 changes of ownership; against, in 1894, 3,045 registrations, 3,142 certificates and 493 transfers.

Registration Fees. Following up the change in registrations, as a matter of course, there is a corresponding change in registration fees. In 1891 we received $3,152,50; in 1892, $3,835,25; in 1893, $3,787.45; in 1894, $3,357.75; in 1895, $3,220.00; in 1896, $2,954.00; in 1897, $4,124.25; in 1898, $5,233.00; in 1899, $6,834.75; in 1900, $7,953.00; in 1901, $8,560.00, and in 1902, $9,497.31, an increase of $937.31 over 1901.

Herd Books. There were sent out in 1902: of Vol. I, 4 copies; of Vol. II, 6 copies; of Vol. III, 14 copies; of Vol. IV, 14 copies; of Vol. V, 19 copies; of Vol. VI, 33 copies; of Vol. VII, 42 copies; of Vol. VIII, 35 copies; of Vol. IX, 1 copy; of Vol. X, 58 copies: of Vol. XI, 148 copies: of Vol. XII, 111 copies; of Vol. XIII, 120 copies; of Vol. XIV, 157 copies; of Vol. XV, 212 copies; of Vol. XVI, 286 copies; of Vol. XVII. 470 copies; of Vol. XVIII, 146 copies, a total of 1,876 copies, or 256 more than for 1901.

Pedigrees on Record. Vol. I contains 3,304, Vol. II 4,427, Vol. III 4,593, Vol. IV 4,957, Vol. V 4,388, Vol VI 5,904, Vol. VII 4,954, Vol. VIII 4,024, Vol. IX 3,633, Vol. X 3,669, Vol. XI 3,213, Vol. XII 3,148, Vol. XIII 2,714, Vol. XIV 4,147, Vol. XV 5,776, Vol. XVI 7,024, Vol. XVII 9,406, Vol. XVIII 9,168, and Vol. XIX will contain about 10,000.

We are now recording for Vol. XX, which will contain animals recorded in 1903.

NUMBER OF MEMBERS.

Year.	New Paid	Resigned and Lapsed	Not Paid.	Old Paid.	Total Paid.
1897	106	36	50	431	537
1898	240	24	48	463	713
1899	399	31	83	657	1,056
1900	305	64	142	946	1,251
1901	310	82	129	1,255	1,565
1902	377	116	197	1,385	1,762

This table shows that our paid-up membership has increased 197 in the last year in total numbers. Our income from members' fees was; for 1897, $1,615; for 1898, $1,536; for 1899, $2,112; for 1900, $2,502; for 1901, $3,130, and for 1902, $3,524.

EXTRACTS FROM BY-LAWS.

SECTION 1.—Persons desirous of becoming members shall so notify the Secretary, pay the entrance fee, and agree, if elected, to conform to the rules of the Association, and not to withdraw without paying all fees due and giving three months' notice of their intention of doing so.

SECTION 2.—Members shall pay an entrance fee of $2.00, and subsequently an annual subscription of $2.00, which annual subscription shall be due and payable on the first of January of each year.

SECTION 5.—Members must keep the Secretary advised of their post-office address, and all *communications* shall be considered as delivered which have been mailed, properly addressed and prepaid.

NEW BY-LAW.—That all calves dropped after January 1st, 1889, shall in future be registered within twenty-four months of birth, and if not soregistered, enlarged fees shall be charged for their registration.

SECTION 15—FEES.—Charges for registration will be:

To Members, Registration and Certificate $0.75 for each animal. To Non-Members, Registration and Certificate $1.25. Over age, to Members (in all cases a Certificate goes with Registration) $1.00. Over age, to Non-Members (in all cases a Certificate goes with Registration) $1.75. Change of Ownership, 25c. Duplicate Certificate, 25c. Back volumes of Herd Books, $2 00 each.

HENRY WADE, Secretary.

FINANCIAL STATEMENT.

RECEIPTS.		EXPENDITURE.	
Cash on hand	$7,471 43	Wages Government Car National Live Stock, etc	$ 157 50
1385 Yearly Subscribers and 377 New Subscribers, total 1762	3,524 00	Insurance	19 80
Registration Fees for Pedigrees, 9,980; Transfers, 3,883	9,497 31	Printing, Stationery and New Typewriter	921 88
Interest on deposit	265 10	Postage, $889.28; Express on Books, $91 84	980 92
Herd Books (86)	172 00	Auditor and Stenographer	84 00
		Miscellaneous, Telegraph, Cartage etc	131 65
		Herd Books, binding	614 50
		Herd Book, Vol. XVIII, Printing	2,657 00
		Prizes at different Shows, $2,772 and Cattle Breeders' Grant for Prizes $576.50	3,348 50
		Directors' and Committee Expenses	428 00
		Commission	3,881 30
		Cash	7,704 79
	$20,929 84		$20,929 84

ASSETS.

To Cash	$7,704 79
Office Furniture, Books, etc.	150 00
3539 Herd Books	9,875 50
	$17,730 29

I hereby certify that I have examined the books and accounts of the Dominion Shorthorn Breeders' Association for the year ending December 31st, 1902, and that the above statement is in accordance with the same.

CHAS. F. COMPLIN, Auditor.

Toronto, January 16th, 1903.

RESOLUTIONS.

"That the usual grant of 50 cents per member from the Ontario contingent be again granted to the Cattle Breeders' Association on the same terms as heretofore, viz., that all this grant be given for premiums to Winter Shows in Ontario, and the adjudication of this grant on the premium lists be left entirely in the hands of the Shorthorn Executive Committee." Carried.

"That the Dominion Shorthorn Breeders' Association grant the sum of $1,000 to the Industrial Exhibition Association, Toronto, providing they give as much for the Shorthorn breed of cattle. If, however, the Exhibition is a Dominion one, the sum of $1,500 be donated towards the Shorthorn prize list on condition that they give a like amount The classification to be left in the hands of the Executive Committee of the Association, and all animals exhibiting must be registered in the Dominion Shorthorn Herd Book" Carried.

On motion it was resolved: "That the following amounts be granted to the different exhibitions given below, providing the associations duplicate the amount for Shorthorns; but in case they do not give as much as this Association has granted the Dominion Shorthorn Breeders' Association duplicate their prize list, all animals exhibiting to be registered in the Dominion Shorthorn Herd Book: Maritime Provinces Winter Fair, Amherst, N.S., $150; Western Fair, London, $500; Central Canada Fair, Ottawa, $100; Industrial Fair, Winnipeg, $500; Brandon Big Fair Association, Brandon, Man., $250; Industrial Exhibition, Calgary, Alta., $100; New Westminster, B.C., $100; Victoria, B.C., $100; Sherbrooke, Que., $100; Provincial Fair, Halifax, N.S., $100; Provincial Fair, Fredericton, N.B., $100; Provincial Fair, Charlottetown, P.E.I., $100."

Messrs. Gibson Johnston, and Robson were appointed a committee to draw up a resolution requesting the Industrial Exhibition to erect a suitable building for exhibiting stock in, and the following is the result of their conference:

"That we, the Dominion Shorthorn Breeders' Association, in annual meeting assembled, wish to impress upon the Industrial Exhibition authorities the inconvenience exhibitors and visitors are put to at your exhibition through want of a suitable building for exhibiting the different breeds of cattle; and we would respectfully request that your honorable Board, will, in your wisdom, see fit to erect a suitable covered building or amphitheatre for that purpose, and your petitioners will ever pray."

"The Dominion Shorthorn Breeders' Association notes with satisfaction the marked progress made during the past year by the Industrial Exhibition Association of Toronto, as regards new buildings, improved accommodation for exhibitors, and the character of the exhibition generally. We also wish to place upon record our appreciation of the public spirit and liberality of the citizens of Toronto in providing funds for the erection of the new butter, cheese and dairy building, the new art gallery, the new manufacturers' building and women's building, and trust that no time will be lost by the City Council in pushing forward to completion the new manufacturers' building, women's building and other contemplated improvements. We cordially approve of the proposed Dominion Exhibition to be held in Toronto in 1903, and pledge our support and assistance to the Board of Directors of the Industrial Exhibition Association in helping them to carry such an exhibition to a successful issue, and also to aid them in securing the recognition of the Dominion Government, and the procuring of sufficient grants from the Dominion and local Governments to enable them to make the proposed exhibition a complete success." Carried unanimously.

On motion it was resolved:—"That the Dominion Shorthorn Breeders' Association take five silent memberships of $100 each in the International Live Stock Exposition at Chicago."

"That the Dominion Shorthorn Breeders' Association grant $300 towards advertising, as suggested in Mr. A. P. Westervelt's letter to the President, providing the various other live stock associations make up the balance of the $600 required." Carried.

"That this Association give the sum of $100 towards paying the wages of a man in charge of cars of live stock to the west." Carried.

"That this meeting instruct our executive to prepare two petitions, one to be sent to the Dominion Government, the other to the Hon. John Dryden, Minister of Agriculture here, asking them to co-operate or assist financially or otherwise, abattoirs to be built in Canada." Carried.

The following resolution was unanimously adopted: "We, the Dominion Shorthorn Breeders' Association here assembled this 27th day of January, 1903, respectfully ask that the Dominion Government encourage and assist the Live Stock Breeders of Canada financially and otherwise in making a large exhibit at the Louisiana Purchase Exhibition, at St Louis, Mo., in 1904. It is said that the State of Missouri alone is to give $200,000 in premiums on Live Stock bred in that state, and we believe that this will be one of the greatest contests of the various breeds ever known in the world. We are confident that your Government would be acting in the best interests of our Dominion by aiding our breeders in making an exhibit that would in every sense be a lasting credit to this country. The good work done along this line by your Department at the Pan-American, Buffalo, last year is gratefully acknowledged, but we feel you should go much further as the Live Stock Industry is the greatest of all industries. We also desire that the Government announce their intention in regard to this matter to the breeders of Canada."

On motion it was unanimously resolved: "We, the Dominion Shorthorn Breeders' Association, at our annual meeting assembled, would respectfully submit that while more complicated regulations are being placed between the exportation of pure bred cattle between Canada and the United States, the ordinary regulations as between the importations from the United States to Canada are being relaxed, so much so that cattle are being imported into Canada from the United States without their being eligible for registration in our books of record, or of those of the country in which the breed originates. Our farmers are being persuaded to buy cattle that are not eligible for registry in our book, believing them to be pure bred. We would therefore beg to call your attention to the above situation, and would respectfully ask that you take this matter into consideration, and so use your efforts that there will be a reciprocal arrangement made, whereby we may trade on an equitable basis, and insist that all animals be recorded in our various stock registers before being entitled to importation without paying duty."

Mr. W. E. Skinner, manager of the International Live Stock Exposition, was called upon for a few remarks. Mr. Skinner stated that the exposition which he was manager of was first launched at an informal luncheon given by the Hon. John Dryden in the parliament buildings in September, 1899. On this occasion Mr. Dryden said he thought the breeders of America should have something in the way of a show that would serve as an exponent of the improved live stock of this continent. Mr. Skinner was greatly taken with the idea, and, on returning to Chicago induced the Stock Yards people to take it up, and provide the necessary accommodation. He said the exhibition has, however, outgrown the founders, and it is now proposed to unite the breeders of North America in its support. The Stock Yard people were prepared to put up new and enlarged buildings, after the model of a Roman amphitheatre, costing from two hundred to $250,000 on land worth $150,000, provided the breeders of the continent show their willingness, in a practical way, to support the show when established. He said it was required that the breeders take 1000 life tickets at $100 each, and if, as a result of taking this stock, the show continues ten years, no further guarantee will be required. Should it not continue ten years half the amount contributed by the breeders would be taken by the Union Stock Yard to meet disbursements, and the other half returned to those who take the tickets now.

President Miller spoke strongly in favor of the Dominion Shorthorn Asso-

ciation taking five memberships, and when the motion, which was framed by the directors, was submitted it was unanimously carried.

Mr. Richard Gibson said in going there Canadians were not treated as foreigners, but made to feel at home, and he asked Mr. Skinner to put him down for a membership.

Col. McGillivray said the Association had already been formed, and our ex-president was made one of the Directors.

Mr. A. W. Smith, the mover of the motion to take five memberships, said he did so with the reciprocation of the kindness and courtesy always received in Chicago.

Mr. Skinner thanked the Association and individual members for their assistance, and he said the breeders are to be responsible for the prizes given at the show, and are to have the gate receipts as a means of making up the prize lists, while the Union Stock Yards people will have the stall rents and the privilege of selling feed to the live stock as their return for the money expended on the buildings.

ADDRESS BY HON. JOHN DRYDEN.

I take the liberty of congratulating you, Mr. President, on the fact of finding you in the chair here, and I also wish to congratulate the Association on its prosperous condition. I am reminded of the olden days, many years ago, when a number of the breeders in this Province undertook to raise the then standard for registration of Shorthorns, and some of you are present now who were present at that meeting, and you remember, as I do, the difficulties of the situation. We were not troubled in those days about handling the surplus,—in fact, we had no funds. But we thought we had good objects in view, and our Shorthorn men all over the country united heartily in this scheme, and the result is this Association as you find it to-day. Perhaps there is no Association in the Province in a more prosperous condition than this one. I see you have a LITTLE money on hand for future use, and now the only difficulty experienced is that you are troubled by the burden of taking care of so much money belonging to the members of the Association.

I would like also to congratulate you on the prosperous condition of your business. I think the past year probably has been one of your best years. I will not say it is the best, because I remember in years gone by Shorthorns selling for higher prices than probably any you have received during the past year; but I want to say that taking it all around, it shows a healthy condition of business, and we may all of us congratulate ourselves on the fact that it is so.

Then I want to congratulate you further on what I consider the outlook at present. Some may be a little troubled, but there need be no reason for pessimism in any sense. I have no fear for the outlook of Shorthorns in this country for many years to come. We have a large country to fill up, which is capable of carrying a considerable number of cattle; and you gentlemen who are here will permit me to say that for the purpose of the ordinary farmer in any part of our country, who wishes to produce both milk and beef, there are no cattle which serve their purpose any better than the Shorthorns, and as soon as the people generally discover that fact, then no doubt your cattle will be sought after. I have no hesitation in saying that to me the outlook is not at all pessimistic, but rather the opposite; and although you do not find Shorthorns selling fabulously high, still, so long as we have a healthy market—a market in which any of you gentlemen can sell your animals for fair prices—I think that is all most of us, at all events, desire.

I want the men who own Shorthorns, to stand together as one man. I have heard rumors of a separate Herd Book. We have been all through that years ago, and I beg of you as you value your business do not allow that, as it would be what I would call a suicidal policy. For instance, the moment you break loose from this Association which represents everybody in this Dominion, and you have separate registration in Manitoba, then you must have a separate book in the North west Territories and another in Quebec. This would create great confusion, it would mix everthing up ; some would require to have animals recorded in half a dozen books instead of one. I take strong grounds in this respect, and I think the fewer Herd Books representing cattle or sheep the better it is for the particular breed which is represented. It is not only suicidal but expensive, and very confusing to ordinary men, because these different records would all require to have some shade of difference in the standards which they set up, which would make it very objectionable. I am pleased with the generous spirit manifested at this meeting. It is best that fair play should be given all those sections that are particularly interested. Mr. Miller asked one gentleman to resign in order that you might put a representive from the West on the Board of Directors because there was no other place vacant I commend Mr. Miller's suggestion, and I commend your endorsation of it, because you thus say to those who are dissatisfied, we want you to work with us, and we are willing to work with you ; if you consent to come in and help manage the association we shall be glad of your assistance. I think that is what ought to be done whenever necessity arises for it.

Breeders of Shorthorns should stand together in another matter. I think the breeders of Shorthorns should unite in trying to present their wares in parts of the country that cannot well be reached by individuals. I have talked a good deal with Mr. Westervelt, and the result was I requested him to go to the Northwest with a view to opening negotiations. There will be an immense market in the western country, and I venture to say considerable market in the eastern part of the Dominion also. We ought to be willing to stand together and let us spread the breed over the country as far as we can, and if some money could be utilized in this direction I think it would bring good results.

Mr. Miller : We granted $300 for that purpose.

Mr. Dryden : I think that is wise. Now am I old enough to ask your endorsation for another thing. I would like to see Shorthorn breeders deal honestly with one another. I think if ever there was any business where honesty is the best policy it is in connection with breeding cattle. I have heard of strange things—interchange of pedigrees, for instance. Some people think a pedigree merely means that an animal is registered, and so little harm can be done by interchange. But a pedigree is more than this. It has a money value, and a change might as well be made in the face of a check as in the face of a pedigree. This ought not to be done, as it is a suicidal policy. If you once get suspicion aroused, you destroy the limit of good of the Association, and destroy much of the good which will come out of breeding this particular class of animals

Last year when I came before you I ventured to make a prophecy. I was talking about the outcome of the cattle trade. We were then getting five and a quarter cents per pound and I prophesied an increase to six cents for beef cattle in this country, and I was so successful in making the prophecy that I have had one or two gentlemen, who wanted something for the newspapers, coming to me to make another. But all I did then was to base a statement on known facts, and I thought it might be interesting to the breeders. Now what are the facts to-day? Cattle are not as dear as they were some months ago, but they are selling at as good a price as the time we met here last year; and if there

are any here who think Shorthorns are going low, and beef cattle are also going to be low, I would commend them to get hold of the world's statistics of the number of cattle handled and the number of cattle needed. Because you will remember the whole world is being drawn together, and it makes very little difference whether you live in London or Germany: the chances are the man who lives in Germany will henceforth have the privilege of eating meat produced in the Province of Ontario or the Northwest, as well as those residing in London. I understand some gentlemen in the city have made arrangements to send ten, fifteen or twenty thousand cattle from this country into the German markets. That shows a lack of cattle in Germany. I was told of men in Germany, 30 years of age, who have never tasted a piece of meat in their lives. The reason is, the cattle are not there, and beef is so high that a certain portion of the community are not able to secure it. These people have come here in order to secure a portion of the cattle that we have to spare, and send the dead meat to Germany. You know our cattle are now going across the water to London and Liverpool, but this is a new market, and if we study the world's supply and the world's demand, we will come to the conclusion that there will be a chance to make some money in the future as in the past.

The man who has good cattle and will feed them well, and will present them perfectly finished—and especially if he held them over for suitable steamship accommodations—will get well paid for the money he has expended in his labor. I have not said anything about prices. I do not think I need to. But I would not hesitate in keeping before my mind the same six cents per pound given last year. This is not said for the producers of scrubs, because I have nothing in the way of encouragement for them; and if they refuse to take advantage of their situation and the circumstances they must take the consequences. But if our people will interest themselves in this work, and undertake to get the best blood, and will take good care of the cattle and present them in proper condition, they will probably be just as satisfied in 1903 as they were in 1902.

I am glad to see the interest manifested in this Association. It has not grown less in all these years, and I am convinced it will not grow any less. You have a good work in hand, and you should have laudable ambitions to keep the breed to the front, and all you can do in this or in any way I have suggested will be well spent money and well spent time. (Applause)

Mr. Arthur Johnston thought that prophecy was dangerous, but with the scarcity of breeding stock in Britain there was never a better time than now to buy such stock. There was not one animal for ten in the county of Aberdeen, Scotland, now as compared with a number of years ago.

Mr. Robert Miller somewhat turned the discussion, and said an outbreak of foot and mouth disease here would block our trade with England, and what then? Continuing he said : I think if it should be possible as a Shorthorn Breeders' Association to encourage some organization to start an abattoir in this city, or any other place in the Dominion, it would be our duty to do it. As individuals or as an an association we should take every action possible to further and assist by our co-operation with them or by assisting them financially. By so doing we would put ourselves in a position that we would be somewhat independent should such a state of affairs occur.

Mr. Dryden : I think if you wanted to take any action you should petition the Ontario or Dominion Government to take steps towards establishing a dressed meat trade. I say the great need of Canada is what Mr. Miller has suggested. If our export cattle trade should be cut off it would be worse than the coal famine. In speaking further Mr. Dryden said it was first necessary to have centralization, as it would not do to have the trade scattered around to

every little village or town, but the trade should be brought together in one place, and he thought Toronto altogether the best place for this abattoir, for the reason that most of the cattle are here in the west.

Mr. W. E. Skinner was asked to speak regarding this matter, and said centralization was the word of the time. Mr. Dryden touched the keynote when he said centralization. Just so long as you have packing industries scattered all over the country will you take a back seat in handling any great quantity of by products in any other market than that of the immediate consumption. The very profit is what goes out in the sewer. Any man in Chicago will take less than he paid for the hoof and make a handsome profit. The real profit in the business is what is manufactured in the concenrated industries attached to industries attached to the business. There is no packing house in the city of Chicago capable of going out to a small town and putting out packing houses and endeavoring to do a business in that community by themselves. The very machinery that is utilized in making this chemical preparation would be too expensive for any one house to take up, but when you have all these factories centralized they go on working up the by products, and the profit is immense.

PRIZE WINNING SHORTHORNS AT THE TORONTO INDUSTRIAL EXHIBITION, 1902.

Bull, 4 years old and upwards.

1st, Captain Mayflower (imp) =28858=red, calved Feb. 20th, 1898. Bred by Donald Fisher, Pitlochry, Scotland: sire, Captain of the Guard (58596) ; dam, Mayfly. Exhibitor, J. A. Crerar, Shakespeare, Ont.
2nd, Spicy Robin=28259=roan, calved Feb. 16, 1898. Bred by J. & W. B. Watt, Salem, Ont.; sire, Red Robin=24808=; dam, Roan Lady=24755=. Exhibitor, Geo. D Fletcher. Binkham, Ont.
3rd, Admiral of Castlederg=28902=red and little white, calved Jan. 29, 1898. Bred by exhibitor ; sire, Statesman=20627=; dam, Village Rose 7th=21070=. Exhibitor, A. J. Watson, Castlederg, Ont.

Bull, 3 years old and under 4.

1st, Pirate Chief=32250=roan; calved Jan. 15, 1899. Bred by Geo. W, Wren, Chiselhurst, Ont.; sire, Graindier=26251=; dam, Primrose of Ethel=29197=. Exhibitor, Chas. W. Holmes, Amherst, N.S.
2nd, Royal Sailor 2nd=33097=red and little white, calved April 16, 1899. Bred by J. & W. B. Watt, Salem, Ont. ; sire, Royal Sailor (imp.)=18959=; dam, Bonny Pride=33931=. Exhibitor, G. H. Oke, Alvinston, Ont.

Bull, 2 years old and under 3.

1st, Spicy Marquis (imp.)=36118=roan, calved Jan 19, 1900. Bred by W. S. Marr, Uppermill, Scot. ; sire, Spicy Robin (69638) ; dam, Maude 37th. Exhibitor, W. D. Flatt, Hamilton, Ont.
2nd, Hillcrest Hero=38777=red and little white ; calved Feb. 11, 1900. Bred by D. Talbot & Son, Everton, Ont ; sire, Charles Dickens=23418=; dam, Antoinette=30938=. Exhibitors, Eastwood Bros., New Toronto.
3rd, Keith Baron (imp.)=36050=red, calved May 20, 1900. Bred by Earl of Kintore, Inverurie, Scot sire, Prince of Archers (71240) ; dam, Maritana. Exhibitors, McDonald Bros., Woodstock, Ont.

Bull calved before Feb. 1, 1901, and under 2 years.

1st, Shining Light=38920=red, calved Oct. 2, 1900. Bred by exhibitors ; sire, Grand Gloster=23774=; dam, Pansy Ray=29822=. Exhibitors, Goldfellow Bros., Maxville, Ont.
2nd, Cicely's Pride (imp.)=40369=(78549) roan, calved Sept. 14, 1900 Bred by H. M. King Edward 7th, Sandringham, Eng.; sire, Pride of Collynie (75248) ; dam, Cicely. Exhibitor, Geo. A. Drummond, Point Claire, Que.
3rd, Republican (imp)=45218=red, calved Jan. 28, 1901. Bred by W. S. Marr, Uppermill, Scot. ; sire, Lavender Victor (76697) ; dam, Missie 153rd (imp.=43543=. Exhibitor, W. D. Flatt, Hamilton, Ont.

Bull calved on or after Feb. 1, 1901, and before Feb. 1, 1902.

1st, Lord Chesterfield=40610=light roan, calved Feb. 5, 1901. Bred by T. Redmond, Millbrook Ont. ; sire, Sailor Champion=27235=; dam, Matchless=41368=. Exhibitors, D. Talbot & Son, Everton Ont.
2nd, Banff's Champion=42809=red, calved May 8, 1901. Bred by exhibitor ; sire, Lord Banff (imp.) =36053=; dam, Fanny 62nd (imp)=34225= Exhibitor, W. D. Flatt, Hamilton, Ont.
3rd, Coming Star =39506=roan, calved March 21, 1901. Bred by exhibitors ; sire, Royal Victor=34681=; dam, Minnie Salem=26295=. Exhibitors, J. & W. B. Watt, Salem, Ont.

BULL CALVED BEFORE FEB 1, 1902, AND UNDER 1 YEAR.

1st, Crimson Hero=43477=roan, calved Sept. 5, 1901. Bred by exhibitor ; sire, Royal Hero=34679=; dam, Crimson Flower=45284=. Exhibitor, J. Groff, Alma, Ont.
2nd, Royal Victor 2nd=40862=red roan, calved Nov 4, 1901. Bred by J. & W. B. Watt, Salem, Ont.; sire, Royal Victor=34681=; dam, Minna=33938=. Exhibitor, W. D Flatt, Hamilton, Ont.
3rd, Invincible=43214=red and little white, calved Oct 3rd, 1901. Bred by exhibitors ; sire, Sir Tatton =28797=; dam, Mina 2nd=46379=. Exhibitors, McDonald Bros , Woodstock, Ont.
4th, Royal Matchless=43450=red, calved Sept. 20, 1901. Bred by exhibitors ; sire Royal Wonder =34682=; dam, Matchless 16th=27773=. Exhibitors, J. & W. B. Watt, Salem, Ont.
5th, Trout Creek Banff=40076=roan, calved Sept. 3, 1901. Bred by Exhibitor ; sire, Lord Banff (imp.) =36053=; dam, Proud Amaranth (imp.)=38095=. Exhibitor, W. D. Flatt, Hamilton, Ont.

BULL CALVED ON OR AFTER FEB 1, 1902

1st, Prairie Prince=43516=red, little white, calved Feb 25, 1902. Bred by T. E. & R. S. Robson, Ilderton, Ont.; sire, Prime Minister (imp.)=15280=; dam, Gwendoline=39999=. Exhibitor, T. E. Robson, Ilderton, Ont.
2nd, Wellington=43390=roan, calved Feb. 11, 1902. Bred by exhibitor ; sire, Lord Sackville=28466=; dam, Centennial Isabella 50th=42390=. Exhibitor, A. J. Watson, Castlederg, Ont.
3rd, Crimson Valasco=43526=red. little white, calved April 18, 1902. Bred by exhibitor ; sire, Crimson Laddie=36133=; dam, Lily of Layton=28826=. Exhibitor, Jas. Reanie, Wick, Ont.
4th, Beau Ideal=43213=red, calved Feb 15, 1902. Bred by exhibitors ; sire, Sir Tatton=28797=; dam, Sunnyside Mina 2nd=20961=. Exhibitors, McDonald Bros., Woodstock, Ont.
5th, Captain May=43652=red, calved March 10, 1902. Bred by exhibitor ; sire, Captain Mayfly (imp.) =28858=; dam, Rosina 3rd=29537=. Exhibitor, James A. Crerar, Shakespeare, Ont.

BULL, SENIOR CHAMPION, OVER 2 YEARS.

1st, Spicy Marquis=36118=. Exhibitor, W. D. Flatt, Hamilton, Ont.

BULL, JUNIOR CHAMPION, UNDER 2 YEARS.

1st, Lord Chesterfield=40610=. Exhibitors, D. Talbot & Son, Everton, Ont.

COW, 4 YEARS OLD AND OVER.

1st, Crimson Fuchsia 13th=34536=light roan, calved April 22, 1898. Bred by D. Birrell, Greenwood, Ont.; sire, Clan Campbell (imp.)=17096=; dam, Crimson Fuchsia 7th=27899=. Exhibitor, W. D. Flatt, Hamilton, Ont.
2nd, English Lady 12th=31063=red. calved Nov. 9, 1896. Bred by exhibitors ; sire, Royal Sailor (imp.) =18959=; dam, Lady English=15380=. Exhibitors, J. & W. B. Watt, Salem, Ont.
3rd, Gem of Ballechin (imp.)=31174=red and white, calved Jan. 1, 1898. Bred by A. Robertson, Haugh-of-Ballachin, Scot. ; sire, Mutineer (69169) ; dam, Gem of Verona 3td. Exhibitor. J. A. Crerar, Shakespeare, Ont.

COW, 3 YEARS OLD AND UNDER 4.

1st, Duchess of Sanquhar 3rd (imp.)=vol 19=roan, calved March 23, 1899. Bred by A. & W. Law, Mains of Sanquhar, Scot.; sire, Scotch Thistle (73584) ; dam, Duchess of Sanquhar. Exhibitor, W. D Flatt, Hamilton, Ontario.
2nd, Water Cress (imp.)=38181=roan, calved Jan. 25, 1899 Bred by Jas. Thomson, Balbegno, Scot.; sire, Marshfield (62980) ; dam, Wilfrid 4th. Exhibitors, Goodfellow Bros , Macville, Ont.
3rd, Ballechin Daisy 2nd (imp. in dam)=37995=roan, calved April 2, 1899. Bred by A. Robertson, Haugh-of-Ballechin, Scot.; sire, Mountain Hero (73114) ; dam, Ballechin Daisy (imp.) =31173=. Exhibitor, J. A. Crerar, Shakespeare, Ont.

HEIFER, 2 YEARS OLD AND UNDER 3.

1st, Gem of Ballechin 2nd=39276=red and white, calved Sept. 3, 1899. Bred by exhibitor ; sire, Diamond Jubilee (imp.)=28861=; dam, Gem of Ballechin (imp.)=31174=. Exhibitor, J. A. Crerar, Shakespeare, Ont.
2nd, British Lady=43734=roan, calved March 10, 1900 Bred by Geo. Amos, Moffatt, Ont.; sire, Diamond Statesman=29139=; dam, Florence Rockwood=23691=. Exhibitor, W. D. Flatt, Hamilton, Ont.
3rd, Rose Daisy=43737=dark roan, calved Jan. 11, 1900. Bred by Geo. Amos, Moffatt, Ont. ; sire, Premier=24586=; dam, Rose Mabel=30031=. Exhibitor, W. D. Flatt, Hamilton, Ont.
4th, Kirklevington's Bloom=vol. 19=roan, calved April 26, 1899. Bred by Geo. Bothwell, Nettleton, Mo. ; sire, Nonpareil Victor (imp.)=vol. 19=; dam, Kirklevington Lady 4th=vol. 19=. Exhibitor, W. D. Flatt, Hamilton, Ont.

HEIFER CALVED BEFORE FEB. 1, 1901, AND UNDER 2 YEARS.

1st, Topsman's Queen=vol. 19=roan, calved Sept. 29, 1900. Bred by exhibitor ; sire, Topsman=17847=; dam, Molly Lorne=29382=. Exhibitor, T. E. Robson, Ilderton, Ont
2nd, English Lady 16th=47874=red, calved Sept. 6th. 1900 Bred by exhibitors ; sire, Royal Victor =34681=; dam, English Lady 11th=31062=. Exhibitors, J. & W. B. Watt, Salem, Ont.
3rd, Matchless 28th=47875=roan, calved Sept. 23, 1900. Bred by exhibitors ; sire, Royal Victor =34681=; dam, Matchless of Emburst 9th=17239=. Exhibitors, J. & W. B. Watt, Salem, Ont.
4th, Heather Bloom 2nd=44111=roan, calved Nov. 6, 1900. Bred by A. & D. Brown, Iona, Ont.; sire, Blue Ribbon (imp.)=17075=; dam, Heather Bloom=26500=. Exhibitor, W. D. Flatt, Hamilton, Ont.

HEIFER CALVED ON FEB. 1ST, 1901, AND BEFORE FEB. 1ST, 1902.

1st, Water Lily (imp.)=43628=roan, calved March 2, 1901. Bred by Jas. Thomson, Balbegno, Scotland ; sire, Count Joyful (74294) ; dam, Water Cress (imp.)=38181=. Exhibitors, Goodfellow Bros., Macville, Ont
2nd, Lily of Pine Grove 2nd=44890=dark roan, calved Feb. 12, 1901. Bred by exhibitors ; sire, Marquis of Zenda (imp.)=26064=; dam, Lily (imp.)=34198=. Exhibitors, W. C. Edwards & Co., Rockland, Ont.
3rd, Cicely 2nd=vol. 19=roan, calved April 20, 1901. Bred by T. Webber, Glanford, Ont ; sire, Roan Lad=28463=; dam, Flora Stanley=47886=. Exhibitor, W. D. Flatt, Hamilton, Ont.
4th Nelly Buckingham—vol. 19=roan, calved March 13, 1901. Bred by H. Smith, Hay, Ont.; sire, Knuckle Duster (imp.)=28868=; dam, Fanny Buckingham=23618=. Exhibitor, T. E. Robson, Ilderton, Ont.

HEIFER CALF, CALVED BEFORE FEB. 1, 1902.

1st, Fair Queen=vol. 19=roan, calved Oct. 3, 1901. Bred by H. K. Fairbairn, Thedford, Ont.; sire, Royal Prince=31241=; dam, Frances Folsom 3rd=23522= Exhibitor, T. E. Robson, Ilderton, Ont.
2nd, Lady Winsome=44992=roan, calved Sept. 23, 1901. Bred by Geo. Bothwell, Nettleton, Mo.; sire, Winsome Duke 11th=40100=; dam, Blossom of Maine Valley=48120=. Exhibitor, W. D. Flatt, Hamilton, Ont.
3rd, Lady Banff=vol. 19=roan, calved Oct. 20, 1901. Bred by exhibitor ; sire, Lord Banff (imp.) =36053=; dam, Sweet Brier 17th (imp.)=38117=. Exhibitor, W. D. Flatt, Hamilton, Ont.
4th, Bella's Gem=vol. 19=roan, calved Oct. 18, 1901. Bred by exhibitor ; sire, Valiant=25337—; dam, Bella 3rd (imp.)=34211=. Exhibitor, T. E. Robson, Ilderton, Ont.
5th, Victoria Stamford=vol. 19=red roan, calved Sept. 15, 1901. Bred by exhibitors ; sire, Royal Victor=34681=; dam, Lady Stamford=27766=. Exhibitors, J. & W. B. Watt, Salem, Ont.

HEIFER CALF, CALVED ON OR AFTER FEB. 1, 1902.

1st, Mamie Stamford=vol. 19=roan, calved Feb. 25, 1902. Bred by exhibitors ; sire, Golden Standard =34686=; dam, Salem Stamford=32939=. Exhibitors, Goodfellow Bros., Macville, Ont.
2nd, Zoe of Pine Grove—vol. 19=red, calved March 5, 1902. Bred by exhibitors ; sire, Marquis of Zenda (imp.)=26064=; dam, Zoe 4th (imp)=38027=. Exhibitors, W. C. Edwards & Co., Rockland, Ont.
3rd, Dandy Crimson Flower=vol. 19=red, little white, calved March 1, 1902. Bred by exhibitor ; sire, Crimson Laddie=36133=; dam, Lady Mcside=41391=. Exhibitor, Jas. Rennie, Wick, Ont.
4th, Mysie 42nd=vol. 19=dark roan, calved Feb. 5, 1902. Bred by exhibitor ; sire, Spicy Robin =28259=; dam, Mysie of Green Grove=26805=. Exhibitor, Geo. D. Fletcher, Binkham, Ont.

SENIOR CHAMPION FEMALE, OVER 2 YEARS.

1st, Crimson Fuchsia 18th=34536=. Exhibitor, W. D. Flatt, Hamilton, Ont.

JUNIOR CHAMPION FEMALE, UNDER 2 YEARS.

1st, Water Lily (imp.)=43628=. Exhibitors, Goodfellow Bros., Macville, Ont.

FOUR CALVES BRED AND OWNED BY EXHIBITOR.

1st—Exhibitor, J. & W. B. Watt, Salem, Ont.
2nd— " W. D. Flatt, Hamilton, Ont.
3rd— " W. C. Edwards & Co., Rockland, Ont.
4th— " McDonald Bros., Woodstock, Ont.

BEST 3 ANIMALS, GET OF ONE BULL, OWNED BY EXHIBITOR.

1st—Exhibitors, J. & W. B. Watt, Salem, Ont.
2nd— " W. C. Edwards & Co., Rockland, Ont.
3rd— " W. D. Flatt, Hamilton, Ont.

BULL AND 4 FEMALES, UNDER 2 YEARS, OWNED BY EXHIBITOR.

1st—Exhibitors, T. E. Robson, Ilderton, Ont.
2nd— " J. & W. B. Watt, Salem, Ont.
3rd— " W. C. Edwards & Co., Rockland, Ont.

HERD OF 1 BULL AND 4 FEMALES, OVER 1 YEAR, OWNED BY EXHIBITOR.

1st—Exhibitors, W. D. Flatt, Hamilton, Ont.
2nd— " J. A. Crerar, Shakespeare, Ont.
3rd— " J. & W. B. Watt, Salem, Ont.

THREE FEMALES, BRED AND OWNED BY EXHIBITOR.

1st—Exhibitors, J. & W. B. Watt, Salem, Ont.

CANADIAN AYRSHIRE BREEDERS' ASSOCIATION.

DIRECTORS' MEETING.

The directors of this Association convened at the Monument National Building, Montreal, February 13th, at 11 a.m.; President F. W. Hodson, Ottawa, in the chair. The minutes of the last meeting were taken as read.

The Secretary-Treasurer's report was then read and adopted.

Letters were read from E. B. Elderkin, President of the Maritime Stock Breeders' Association, and W. W. Hubbard, Secretary, asking for grant from this Association towards their prize list. These requests were favorably considered, and a resolution making a donation appears in the minutes of the annual meeting.

A communication was also read from N. Dyment, Clappison, Ont., suggesting that the Ayrshire breeders should start an advanced registry. This matter was fully dealt with at the annual meeting.

A report from the Eastern Secretary, Mr. J. P. L. Berube, was presented and read in full. He asked for an increase in rate of commission received, but no action was taken in regard to the matter.

The next subject under discussion of the Board was that of granting a sum of money towards helping to pay for advertising Ontario stock in the West, as per Mr. A. P. Westervelt's report.

Mr Ballantyne heartily agreed with the project. Mr. F. W. Stephen thought it was a little complicated, but he was quite in accord with it.

Mr. Alex. Hume: So far as I had time to think it over the only difficulty will be in buying the right animals.

Mr. W. Stewart: I think the scheme is all right. I do not think we as breeders come together as a body enough. We do not put our business before the public enough, and, therefore, do not receive the benefit we should.

Messrs. Boden and Parlee thought it was a first-class idea and well worth trying. All the other members approved of the scheme.

A series of other resolution were then drawn up, and appear in the minutes of the annual meeting.

The meeting then adjourned.

OFFICERS FOR 1903.

Honorary President	F. W. Hodson, Ottawa, Ont.
President	Senator Owens, Montreal, Que.
1st Vice-President	Alex. Hume, Menie.

Vice-Presidents.

Ontario	J. Lockie Wilson, Alexandria.
Quebec	Robert Ness, Howick, Que.
Manitoba	Geo. Steele, Glenboro, Man.
Assiniboia	J. C. Pope, Regina, Assa.
British Columbia	A. C. Wells, Chilliwack, B.C.
Prince Edward Island	James Easton, Charlottetown, P.E.I.
Nova Scotia	C. A. Archibald, Truro, N.S.
New Brunswick	M. H. Parlee, Sussex, N.B.

Life Members:

Hon. Thos Ballantyne, Stratford.
Jas. McCormack, Rockton.
Jas. Drummond, Petite Cote, Que.
Jos. Yuill, Carleton Place.
John Morrin, Belle Riviere, Que.
Thos. Irving, North Georgetown, Que.
David Benning, Williamstown.

Directors:

Ontario:—
J. G. Clark, Ottawa.
Wm. Stewart, Jr., Menie.
A. Kains, Byron.
W. W. Ballantyne, Stratford.
A. Hume, Menie.
J. C. Smith, Hintonburg.
F. W. Hodson, Ottawa.

Quebec:—
Jas. Boden, Ste. Anne de Bellevue.
T. D. McCallum, Danville, Que.
Senator Owens, Montreal, Que.
R. Hunter, Maxville.
R. R. Ness, Jr., Howick.
Nap. Lachapelle, St. Paul l'Ermite.
W. F. Stephen, Trout River.

Executive Committee (Eastern Div.): R. Hunter, Senator Owens, Nap. Lachapelle.

Executive Committee (Western Div.): Wm. Stewart, Jr., W. W. Ballantyne, and J. C. Smith.

Revising Committee: F. W. Hodson, Senator Owens, J. C. Smith, Robert Ness, and H. Wade.

Auditor (Ontario): C. F. Complin, London.

Auditor (Quebec): Senator Owens, Montreal.

Eastern Secretary: J. P. L. Berube, Montreal, Que.

Secretary-Treasurer: Henry Wade, Toronto, Ont.

Delegates to Industrial Exhibition: W. W. Ballantyne and Wm. Stewart, Jr.

Delegates to Winter Fair: A. Kains and D. Hill, Delaware.

Delegates to Ottawa Winter Fair: J. G. Clark and J. C. Smith.

Delegates to Ottawa: F. W. Hodson and Jos. Yuill.

Delegates to Sherbrooke, Que.: T. D. McCallum and Robert Ness.

Delegates to Quebec: Nap. Lachapelle and A. Drummond.

Delegates to Dominion Cattle Breeders' Association: W. W. Ballantyne and H. Wade.

Judges Recommended:

Toronto Industrial: W. W. Ballantyne and A. Kains; Reserve, A. Drummond.

Ottawa Central: Thos. Bradshaw; Reserve, A. Hume.

London Western: A. Drummond; Reserve, Geo. McCormack, Rockton.

Sherbrooke Exhibition: Jas. Boden; Reserve, Jas. Bryson, Brysonville, Que.

Quebec Exhibition: Thos. Drysdale, Allan's Corners, Que.; Reserve, Nap. Lachapelle.

ANNUAL MEETING.

The fifth annual meeting of the Canadian Ayrshire Breeders' Association was held at the Monument National Building, 218 St. Lawrence Street, Montreal, on Friday, February 13th, 1903, 2 p. m.; President F. W. Hodson in the chair. The minutes of the last annual meeting were taken as read.

On motion the Secretary-Treasurer's Report was adopted.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31st, 1902.

RECEIPTS.

Jan 1, 1902.		
To balance from 1901		$ 370 51
" 215 Members at $2.00		430 00
" Herd Books sold		29 00
" Registration Fees, 1,650 peds., 477 transfers		1,538 50
		$2,368 01

EXPENDITURE.

Jan. 1, 1902.		
By Printing and Stationery		$ 36 00
" Herd Book, Vol. XI		394 38
" Medals		40 50
" Cattle Breeders' Association, 211 members		105 50
" Montreal Agency :		
504 peds. at 20c	$100 80	
109 trans. at 5c	5 45	
Postage and stationery	21 44	
" Committee Expenses		153 00
" Commission on 1,650 peds. 35c	$577 50	
477 transfers at 10c	47 70	
" Postage		54 28
" Telegrams and Sundries		26 57
" Balance on hand		789 89
		$2,368 01

ASSETS.

Balance of cash on hand			$ 789 89
491 Vols. Dom. Herd Book		$ 491 00	
131 " Canadian " at $1		131 00	
173 " Vol. IX. at $2		346 00	
225 " Vol. X. at $2		450 00	
388 " Vol. XI. at $2		776 00	
		2,194 00	
			$2,983 89

I hereby certify that I have examined the books and accounts of the Canadian Ayrshire Breeders Association, and that the above statement is correct and in accordance therewith.

Toronto, Ont.,
Jan. 22nd, 1903.

CHAS. F. COMPLIN, Auditor.

HENRY WADE, Secretary-Treasurer.

REPORT OF THE SECRETARY-TREASURER.

Registration. The principal business done by this Association is the recording of pedigrees. In 1902 we recorded 1650 and 477 transfers, against in 1901, 1467, and in 1900, 1480 pedigrees, or 174 more than in 1901, which is fairly satisfactory. I am afraid a great many breeders are careless about recording, or we would have many more.

Members. Last year we had 215 members pay, against in 1901, 226 members, and in 1900, 190 members ; quite a falling off, I am sorry to say.

Herd Books. Volume XI. was issued last year and sent out to members. Volume XII., having the pedigrees for 1902, has been commenced, and will be a good sized volume

Exhibitions. The sum of $105.50 was paid to the Cattle Breeders' Association, making 211 members to that Association. This amount was apportioned for prizes to the milking breeds exhibited at the last Winter Show held at Guelph, where Ayrshire cattle made a very good standing.

A magnificent display of Ayrshires was made at Ottawa, Toronto, London, Sherbrooke, and at Winnipeg, and a list of prizes will be published in the Report.

The annual meeting was held in Toronto, in 1902, and seven directors were elected there for the term of two years. This year it will be necessary to elect seven from the Eastern District. The directors will elect from among themselves a President, a Vice-President, also Vice-Presidents from the different Provinces and Territories. Also, they shall elect from among themselves six to constitute an Executive Committee, three from the East and three from the West, and also a Revising Committee of five to investigate pedigrees when required.

Record Standard. 1st. Animals that trace on the side of both sire and dam to reliable importation from Great Britain and Ireland. 2nd. Animals imported after January 1st, 1899, must be recorded in the Ayrshire Cattle Herd Book of Great Britain and Ireland in order to be eligible for this record.

Plan of Registration. After careful consideration it was resolved that the following plan for recording and printing be adopted, viz. : That the new record be called the " Canadian Ayrshire Herd Book." That as there are three volumes of the Dominion and five of the Canada Ayrshire Herd Books already published, and as the foundation stock of the cattle to be entered in this new book are already recorded in these eight volumes, it will not be necessary to republish them, but to continue registering from all which are eligible in the eight volumes, leaving them of as much value as heretofore. The new volume that will contain the pedigrees recorded during 1898 will be Volume IX. (Amalgamated Series), and will commence with the next to the last number in Volume V. of the Canada Ayrshire Herd Book. It was also decided that pedigrees in this Volume IX. be abbreviated, giving only the sex, color, age, sire, grand-sire, dam and sire of dam, quoting as foundation stock the names and numbers of these sires and dams from either the Canada or Dominion Ayrshire Herd Books, where the rest of the pedigree can be found, certificate to be issued for each registration on the same abreviated plan. An extended certificate will also be furnished, giving the pedigree in full, for an extra charge of 25 cents. It was also agreed that the unprinted pedigrees of the Dominion Association be printed in the first part of Volume IX. in the same manner as in the former volumes, to prevent confusion in renumbering, and that the Fifth Volume of the Canada Book, now being printed, be accepted as part of the series.

Scale of Fees Adopted. Actual membership fees to Association, $2.00 ; to members, registration and certificate, 75 cents; to members, registration over two years of age, $1.00 ; to non-members, registration and certificate, $1.25 ; to non-members registration over two years of age, $1.75 ; extended pedigree certificate, 25 cents ; duplicate certificate, 25 cents ; change of ownership, 25 cents ; back volumes of Canada and Dominion Herd Books up to Vol. IX., each, $1.00.

All communications and registrations to be addressed to the undersigned.

RESOLUTIONS.

In dealing with the Secretary-Treasurer's Report, Senator Owens thought there should be more of a detailed statement regarding the volumes sold, etc., and on motion it was resolved : " That the Secretary be instructed to make a detailed statement, showing the number of volumes sold for each respective year and the amount paid for the same, as well as the number of volumes sent out to members of the Association and to public institutions.

It was the general opinion of the meeting that the space for description and the names of animals on the entry forms was too small, so the following resolution was adopted:

" That in the entry forms sent out more space be allotted for the description and names of the animals ; that the breeders be requested to give as full a description as possible, and the Secretary be instructed not to print certificates from the forms unless properly filled in. Further, that this rule be printed on the entry blanks and that the Revising Committee be authorized to prepare a form in accordance with the above resolution." Carried.

A letter was read from Mr. E. B. Elderkin, of Amherst, N. S., asking for a grant from this Association towards the Prize List of the Maritime Provinces

Winter Fair. After a short deliberation on the matter, the resolution as given below was adopted :

"That this Association vote the sum of $50 towards the prize list of the Maritime Provinces Winter Fair, to be made up in the following manner : That the 50 cts. per member now given to make each member from the Maritime Provinces members of the Cattle Breeders' Association, go towards making up this prize, and the balance be supplemented from the general funds of this Association ; the classification to be left in the hands of the Directors of the Maritime Winter Fair, and all animals competing must be registered in the Canadian Ayrshire Herd Book."

"That the balance of the money from the other Provinces, paid in by this Association to make each member a member of the Cattle Breeders' Association, be donated to Guelph and Ottawa Winter Shows, and it be left in the hands of the delegates from this Association to arrange the money in the prize list." Carried.

In order to stimulate a demand for Ayrshires in the West it was the general opinion of the meeting the Ayrshire Association should make a grant to some of the large Fairs out there, so on motion it was resolved : "That Winnipeg and Calgary each receive a grant of $25 from this Association to be given for the best pair of Ayrshire animals, composed of a bull one year old and over and a female over two years, the ages to be computed according to the rules of the exhibitions, and it be left in Mr. C. W. Peterson's hands to say whether the amount voted to Calgary shall be given at the Spring or Fall Show. All animals competing must be owned by the exhibitor and recorded in the Canadian Ayrshire Herd Book."

The next matter under consideration was the advisability of having a Derby class at some of the large exhibitions. He thought it best to commence with one Fair and the following was adopted :

"That one of the large Fairs in Canada be asked to make a Derby class for three-year-old Ayrshire heifers in milk, that the rules and regulations regarding this Derby class be furnished to the Secretary of the Fair making the class, and that the entrance fee for each animal be $5. That the Derby class shall be held in Ottawa." Carried.

Mr. J. C. Smith read an extract from Mr. A. P. Westervelt's report dealing with advertising in the West, for the purpose of securing for the Ontario breeder the major portion of that western trade, and asking for the support of the various Live Stock Associations. It was the unanimous opinion of every member present that this was a splendid scheme, so it was moved "That this Association devote the sum of $50 to Mr. Westervelt's scheme, as outlined in his annual report, to develop the markets for Ayrshire cattle throughout Canada and adjoining States likely to buy Ayrshire cattle." Carried.

"That the Canadian Ayrshire Breeders' Association offer a sweepstakes prize of $50 at Guelph, Ottawa, and Amherst, N. S., providing a registered Ayrshire cow wins the sweepstakes in the dairy test over all purebreds." Carried.

A resolution, noting with satisfaction the marked progress made by the Industrial Exhibition Association in the way of erecting new buildings, etc., and approving of the proposed Dominion Exhibition at Toronto in 1903, was unanimously adopted.

The matter of the Eastern Secretary being behind in making his remittances to the head office was taken up and the following resolution passed : "That the Eastern Secretary, Mr. J. P. L. Berube, be requested to make a report to the Secretary-Treasurer at Toronto every month, and that said report, together with

all funds received, must be forwarded not later than the 10th of the following month." Carried.

Moved by Senator Owens, seconded by Alex. Drummond, "That the Canadian Ayrshire Breeders' Association at their annual meeting hereby express their hearty approval of the stand taken by the Farmers' Association and other Canadian associations, in representing to the Federal Government the urgent necessity of the appointment of an independent Railway Commission, and, agriculture being the basic industry of Canada, we concur in the suggestion made by delegates of the different associations that recently convened in Toronto, that at least one representative of our great agricultural interests be appointed on the proposed Railway Commission, and that a copy of this resolution be forwarded the Right Honorable Sir Wilfrid Laurier." Carried.

Mr. F. W. Hodson informed the meeting that in order to get the same transportation facilities and the same assistance for the St. Louis Fair that they got at the Pan-American it would be necessary to petition the Government for same.

Mr. J. G. Clark said that, judging from the advertising they as breeders got at the Pan-American, it would be well to again ask assistance from the Government to make an exhibit at St Louis.

It was moved "That the Canadian Ayrshire Breeders' Association petition the Government for assistance in making a creditable exhibit at the St. Louis Fair." Carried.

It was the general opinion of the meeting that it was a desirable thing to have this "Advanced Registry" as suggested in the President's address, and on motion, it was left in the hands of the Revising Committee with power to act.

Mr. William Stewart, of Menie, thought there should be some standard agreed upon by all the Ayrshire breeders whereby they would know just what was the best type to breed to, and that the judges in the show rings could be largely guided in making their awards by this standard. At present some judges preferred the fine, small type, while others preferred the large animal.

Mr. Hodson thought it advisable to appoint a committee to draft a standard of excellence. By a standard of excellence he did not mean a scale of points, but it would simply be a pen picture of what the Ayrshire cow should be.

It was the general opinion that animals with short teats were a detriment to the breed, and that this defect should be remedied, because as long as they bred Ayrshire animals with short teats they would not go ahead to the extent they otherwise would.

It was then moved "That the matter of working out a standard of excellence be left in the hands of the Revising Committee, that a copy of this standard, as soon as completed, be sent to every breeder, and that the letters received from the breeders expressing their opinions be collected and brought before the committee and then brought before the annual meeting next year." Carried.

The meeting then adjourned.

At the conclusion of the annual meeting the directors met and appointed an Honorary President, President, 1st Vice-President and Executive Committee as appear in the list of officers.

Mr. Wade reported that he had received two or three pedigrees from a gentleman, but was unable to record them because he could not furnish a transfer of the dam to himself, the man from whom he bought not wishing to furnish one unless he paid ten or fifteen dollars more.

It was moved, "That the matter of this gentleman's pedigrees be left in the hands of the Revising Committee; and that Mr. Wade be instructed to send each member of the said committee a report of the case, and they communicate with

him their views on the subject and the majority of votes control the matter." Carried.

Mr. M. H. Parlee of Sussex, N. B., was present, and on motion, it was resolved :

"That Mr. M. H. Parlee's railroad expenses be paid ; that this motion be not a precedent, and in case any Vice-Presidents attend annual meetings in future the expenses of not more than one east of Quebec and not more than one west of Ontario be paid." Carried.

The President is elected from among the directors, and as next year the Ontario directors are elected, it was moved, "That in our opinion Senator Owens ought to be continued in office and re-elected next year in order to get this matter straightened out properly and run without difficulty in choosing the man desired." Carried.

The meeting then adjourned.

THE DAIRY COW.

By President F. W. Hodson, Ottawa.

The Most Profitable Cow. The question as to which is the most profitable cow is one that cannot be decided in an arbitrary manner. There are so many circumstances and contingencies to be taken into consideration, that, after all is said and written on the subject, each man must decide the question largely on his own judgment. He will find it necessary to consider the nature of his farm : the suitability of his buildings and implements : the cost of hired help if such is required ; the proximity of a good market for his finished products, and many other details. The comparative advantages of beef-growing and dairying would probably be the first point considered by a farmer who was just about to make a start in cattle-raising. Men who have had long experience in either of these lines, are not likely to change to the other line, involving as it does changes in farm routine, in variety and management of crops, in buildings and equipments, without a good deal of deliberation. That beef-production can be carried on with a smaller expenditure for labor and utensils is perhaps true, and it certainly does not require the constant attention to business that dairying entails.

Beef or Dairy Cow. But there is no question that, as a machine for converting the raw products of the farm into more suitable forms, the good diary cow is without an equal. The beef bullock will pay little more than market prices for the food consumed. The same may be said of the sheep. Pigs and poultry will give much better returns than the steer or the sheep, if due attention is given to scientific feeding, but even these seldom yield more than one dollar and fifty cents for one dollar's worth of food. The diary cow, however, often goes as high as two dollar's worth of product for one dollar's worth of food, and many extra good cows have been known to give two dollars and fifty cents worth of products for one dollar's worth of food consumed.

Function of the Dairy Cow. It is scarcely necessary to say that the production of milk is the greatest function of the dairy cow. The economical production of large quantities of milk, butter or cheese, determines the value of the cow, and the best efforts of breeders of dairy stock should always be directed toward this goal. If the dairy cow does not yield a profitable flow of milk, she ceases to have any reason for existence. Beefing qualities are of comparatively little importance, except in cases where a good cow loses the use of a portion of her udder, or in some other way becomes undesirable as a milker.

Fancy Points. It naturally follows that to secure the best practical results little attention should be paid to what are commonly spoken of as fancy points. It is only in very exceptional cases that color of the hair, size and contour of the horns, graceful carriage and cork shaped teats can make any possible difference in the actual value of a cow, yet these and many other equally useless fancy points are held in high esteem by many breeders and judges. Beauty of form and breed type are always desirable, and breeders may well endeavor to combine these in as great a degree as possible with capacity at the pail; but the latter must ever remain the first consideration. Unless the breeder of pure-bred dairy cattle has this idea firmly fixed in his mind he is apt to be lead away by fads, and to forget that the only reason for the existence of the improved breeds of dairy cattle is to facilitate the production of milk, butter, and cheese of high quality. It is scarcely necessary to say that many breeders have entirely overlooked this fundamental principle. They are breeding Ayrshires, Holsteins, Jerseys or Guernseys, simply because they are Ayrshires, Holsteins, Jerseys or Guernseys, and not from a definite recognition of the fitness of these cattle to economically produce diary goods of the best quality. In other words they lose sight of market requirements.

The breeder of pure-bred dairy cattle, who allows his stock to become deficient in those qualities that enable them to produce animals that will prove profitable at the pail and churn, will gradually but surely lose his trade, for the successful breeder of the future will be obliged to meet the requirements of a more intelligent and discriminating public. Dairy farmers are recognizing the necessity for using only first-class bulls, and the inferior pure-bred animal is destined to be less and less in demand. Therefore, intelligent breeders of pure-bred dairy cattle are aiming to produce bulls that will sire cows of the highest excellence in actual performance.

Points Indicating Production. The first great essential to be sought in the dairy cow is constitution, without which she cannot stand the strain of many years' heavy feeding and milking. The wide chest, good heart girth, and general appearance of vigor are the chief indications of constitution. Other points largely indicative of production are: A wide, strong muzzle and jaw; a comparatively open backbone or chine, indicating tendency to make milk rather than fat; a capacious barrel, capable of making use of large quantities of feed; and a roomy, well-shaped udder with large mammary and udder veins and milk-wells. A well-known Canadian breeder has tersely summarized these qualifications in the words: A big mouth, a big stomach, and a big udder.

Some Other Qualifications. As already mentioned, production must be regarded as the great desideratum. By this is meant, not a large production of milk or butter in one day, or one week, or one year, but a uniformly heavy production for a long series of years. The famous Holstein cow, Princess of Wayne, that produced in eleven years of lactation, considerably over 180,000 lbs. of milk, is a striking illustration of this power of long-continued heavy production. The dairy cow, whose appetite requires coaxing and coddling, will never achieve any such result as that just quoted.

Besides being a large producer, the first-class cow must be of quiet disposition, as the nervous, bad-tempered cow not only tries a man's patience, but wastes his time as well. It is also very important that a cow should have teats of convenient size, and that she should milk out rapidly and easily. The short teats found on many Ayrshire cows, which necessitate slow and tedious milking with thumb and finger, are a serious detriment to the breed, and are doing a great deal to prevent them taking that position in the public esteem which their own valuable qualities would entitle them to hold, Ayrshire breeders must take immediate steps to remedy this fault, or they will find themselves crowded out

of the field by those who are adhering closely to practical lines in their breeding operations.

Tested Ancestors. Experienced men are able to select good cows with a reasonable amount of certainty, but the most expert judge is largely at sea when he attempts to select a good bull by appearances alone. When we come to the question of raising good cows, we find that the only road to success is in breeding from cows of known capacity, and from bulls whose female ancestors have also been tested for merit at the pail and churn. It is absolutely imperative that the herd bull shall be backed by a considerable number of good producing dams and grand-dams, if satisfactory results are to be expected from his daughters.

Advanced Registry. About twenty years ago some of the prominent American breeders of Jersey and Holstein Friesian cattle, impressed with the importance of this subject, started books of record known as the "Book of Butter Tests," and the "Advanced Registry" respectively, in which cows could be entered only after making a milk or butter record greater than a certain high standard. This system of registry was greatly improved some eight years ago by the adoption of what is known as "official testing." Under this plan all tests made are directly supervised by a capable dairyman, sent as a representative of an experiment station or agricultural college, who sees the cows milked, weighs the milk and tests same in duplicate with the Babcock tester. The correctness of these tests must be sworn to by all concerned in conducting them. This system has now been adopted to a greater or less extent by the Holstein-Friesian, Ayrshire, Guernsey, and Jersey Associations of the United States, but in Canada only the Holstein-Friesian breeders appear to have recognized the importance of the movement. A couple of years ago they established a "Record of Merit," in which a cow may be entered only after making an official test for production of butter fat. Their standard requires that a two-year-old shall produce at least eight pounds of butter fat, a three-year-old ten pounds, a four-year-old eleven and a half pounds, and a mature cow thirteen pounds. A large number of cows have already been recorded in this performance record, and the plan will undoubtedly have a great influence on the future of the breed in Canada. Breeders of other sorts of dairy cattle might well give the subject of official testing their serious consideration.

Keep Yearly Records. Even with the utmost care in breeding, a herd cannot be made profitable without good feeding and careful weeding out of the inferior animals. Every dairy herd should average at least $50 worth of products per cow annually. If a herd is not giving such a return there is something wrong. The only way to know the relative merits of one's cows, the only way to separate the money-makers from the "boarders" is to keep a daily record of the milk yield of each cow and to test the milk of each sufficiently often to know the average per cent. of butter-fat. The cost of keeping such a record is small, and the benefit is great. Keeping milk records arouses a spirit of interest and competition among milkers, and in the mind of the milker as regards the cows under his charge. Rapid, clean and careful milking will raise the average return from a cow very appreciably, and the better the cow the greater the increase. If a farmer has a cow for sale he will find that the ability to give with her an accurate record of her previous performance will almost invariably raise her value and facilitate the sale. Especially is this true if she be a pure-bred. To the breeder of purebred Ayrshires, Holsteins, Jerseys or Guernseys, the yearly milk and butter-fat record should be of greater importance than the breeding record. Only the rich man can afford to keep poor ones.

Co-operative Testing in Danish Dairies. The farmers of Denmark have evolved a very successful co-operative system of testing dairy cows, which has proved of great value in raising the standard of their herds. A short sketch of the plan which they have followed may prove of interest to Canadian dairymen, who might well imitate their Danish competitors in this particular at least.

The Objects of Testing Associations. Four chief objects, are kept in view in organizing these testing associations: (1) That the feed given the cows must, as much as possible, be weighed or measured. (2) That each cow's daily milk yield is weighed once a week, or at least sufficiently often so that accidental influences may not have any serious effect. (3) That the percentage of fat in each cow's milk yield is tested sufficiently often to eliminate accidental influences. (4) That an exact account is kept in such a manner as to show the relation between the butter yield and the food consumed.

The original association, that of Vejen, had 13 members, aggregating 300 cows, and the first year's expenses were $175, but the government recognized at once the importance of this movement and gave them a grant of $62.50. Some of the by-laws of the original association declared that: "The object of the association was to build up a race of cows which would give a large yield of rich milk; the membership should be limited temporarily to 12 or 13, who agreed to let the milk of each cow be tested every 14 days; the expenses should be distributed in porportion to the fat tests made, and collected twice a year; three directors should be chosen, one of whom would resign every third year after the first two years, and who should elect a president and secretary treasurer; the association should continue for five years, and no member should withdraw before that time, unless on account of removal from the district." The directors of the association engaged a "tester" who took samples and tested the milk of each cow, and for whose use reliable apparatus was bought. This tester also kept exact records of the milk yield of each cow and the feed consumed in proportion to the yield of butter, and also prepared tables showing the comparative value of the various individual cows and herds as economical producers, so that those cows having special values for breeding purposes might be selected.

Growth of the Associations. At the close of the first year's work the government appropriated $2,500 to be divided between associations which made proper reports and the plan spread very rapidly. By 1897 it had been clearly demonstrated that the "testers" were also useful in securing better milk for the creameries, and the dairy paper, *Maelkeri Tidende*, soon had frequent discussions as to the work of these associations, notably as regards securing uniform reports from the various associations. Joint meetings were held, and several weak features of the scheme pointed out. In 1898 $4,250 was appropriated for the support of the various associations, and in 1899 the Vejen association again took the lead in including a report as to the raising of calves and hogs. In the same year at a general meeting of all the local agricultural associations, the blank forms for the test associations were fully discussed and uniform methods agreed upon.

In 1900 we find four district associations, comprising in all about 240 test associations, and the results compiled from the reports of the various districts furnish a great deal of valuable information. For instance, the old notion that a larger flow of milk must necessarily give a lower percentage of fat was disproved. Most important of all a co-operation was effected between the test associations and the breeders' associations (bull associations) and a chief inspector was appointed in one district, who helped to select the cows entitled to be bred to certain bulls and to supervise the keeping of the herd book.

The *Maelkeri Tidende* sends blanks to the associations, and when these are filled publish them and sends copies to all the members. Indeed every one interested in dairying helped the plan along, and this explains why there are now over 250 such associations.

A Sample Result. As an example of the practical results obtained, three years' work of the Faarup association may be quoted. According to the *Maelkeri Tidende* the average results per cow in the herds tested were as follows :—

Year.	Lbs. Milk.	Lbs. Milk.	Per cent. Fat.
1899-1900	5,162	191	3.34
1900-1901	5,284	202	3.44
1901-1902	6,104	238	3.50

This shows an improvement in the average yield of 47 lbs. butter per cow by testing and selecting in three years. The work of these associations is evidently the keynote of cheaper milk production, and the co-operative plan offers the only means of securing systematic testing.

Some Suggestions for Canadians. In my opinion something along the above lines should be worked out in Canada with the creamery or cheese factory as the nucleus of the movement. The tester would make the factory his head-quarters, and if the farmers were trusted to do the weighing of the milk and taking of the samples, it would be possible for one man to do the work for all the farms sending milk to the average factory. He would require to visit each farm before the test started ; take note of all conditions, record the number, age, etc., of each cow, feed used, etc. ; show how the weighing and sampling should be done ; leave enough two ounce bottles with initials of farmer and numbers stamped thereon to take separate samples of two milkings, also blanks for filling in feed records every two weeks.

Having thus prepared his patrons they would send in to the factory on certain days the sample bottles, of which the tester would be able to test a large number daily, and still have time enough for an occasional surprise visit to the farms. There would be no reason for the farmer to weigh or take samples incorrectly as the total average of each herd would be known by the patron's daily delivery and factory test, and any trickery would soon be discovered.

There is another advantage in this plan, and that is that the factory can well afford to pay part of the expenses, because the testers' visits to the farm will also encourage better care of milk, better sanitation in the stables, etc. In any case the main point is to include in the test at least for figuring the average—every cow and heifer being fed on the farm, whether they are dry or in milk—that is the crucial test ; the rest is simply a matter of book-keeping. The food given cannot be weighed out to each cow—that would be too expensive—but fortnightly estimates, tested by the scales now and then, should be recorded. This idea may not be of direct benefit to the professional breeders, nor to the progressive farmers owning large herds who may do their own testing ; but the latter may be public spirited enough to join with the small farmers and thus make the establishment of such a system possible. Nevertheless the professional breeders of pure-bred dairy cattle would soon find an increased demand for his bulls, when the necessity for better cows had been impressed upon the farmer by the testing system.

The Question of Breed. Finally there is the question of breed. It will, I think, be generally conceded by fair-minded men that there is no "best" breed. Everything depends on circumstances. A breed that proves highly satisfactory

in one district may be found entirely unsuitable to different environments. It follows therefore that flexibility or the power to adapt itself to varying circumstances and conditions, is a desirable qualification of any breed of cattle. Uniformity of excellence or freedom from culls is another very important point to be considered in choosing a breed. But while certain well defined differences may characterize the various breeds, yet it may be well to remember that there is much greater difference between individual animals of the same breed than between different breeds. A good cow is a good cow no matter what her breed may be. Therefore let each man select the breed that he considers best suited to his conditions and stick to it. Let him buy, or breed to, the best available bulls of that breed, and continue to grade up his herd to a higher degree of excellence year by year. The practice followed by some farmers of using bulls first of one breed and then of another, is fatal to all plans for building up a handsome, uniform, and profitable herd of grade cows, and that is just what most farmers require. The average man does not need purebred females; in fact he will do better with good grades. The breeder of purebred stock is like the poet, born, not made. He must inherit a love for animals and an aptitude for handling them, otherwise his investment will prove unprofitable and all his efforts a disappointment.

LIST OF MEMBERS FOR 1902-3.

Agricultural School, L'Assomption, Que.
" St. Anne de Pocatiere, Que.
Aikenhead, John, Hartney, Man.
Archibald, C A., Truro, N.S.
Armstrong, Jas., Shawville, Que.
Anderson, J. A. R., Hamilton.
Baldock, Wm., Mt. Charles.
Ballantyne, W. W., Stratford.
Baxter, E., N. Georgetown, Que.
Begg, A. V., Moose Creek.
Beatty, David, Chapman.
Bell & Sons. J. H., Farnham Centre, Que.
Bell, Jas., M. D., Montreal, Que.
Benham & Sons, J , Sweetburg, Que.
Benning, David, Williamstown.
Black, F. S., Amherst, N.S.
Blue, Jno., Eustis, Que.
Bogart, J. W., Morewood.
Bond, Hon. Robt., St. Johns, Nfld.
Bryson, Jas., Brysonville, Que.
Bustard, Geo., Vicars, Que.
Callander, Jas., North Gower.
Campbell, J. R., Vernon
Campbell, J. R., Dalkeith.
Clark, J. G., Ottawa.
Central Ex. Farm, Ottawa.
Champion, W. M , Reaburn, Man.
Clark, Alex., Brimston's Corners.
Clelland, Arch., Hemmingford, Que.
Cleugh, Wm., Campbellford.
Clow, Lewis, Hartington.
Collison, Jas., Dixon's Corners
Cottingham, Jas , Ormstown, Que.
Crockett, T., Danville, Que.
Crosby, Jno., Campbellford.
Cunningham, J., Norval.
Creighton, J. C , Hawley.
Cumming, D., Russell.
Cumming, A. J., Heckston.
Cumming, Donald, Norval.
Davies, Geo , Todmorden.
Davies, Robt., 14 Toronto st., Toronto.
Davidson, Geo., Fairfax, Que.
Dawes & Co., Lachine, Que.
Dawes, J. P., Lachine, Que.
Denzies, H. K., Foxboro.
Denis, Arsene, St. Norbert, Que.
Dingwall, Jas., Williamstown.
Dinsmore, Arthur, Windermere.
Doig, Jno , Lachute, Que.
Douglas, J. H., Warkworth.
Donaldson, Jas., DeWittville, Que.
Drummond, A. W. D., Petite Cote, Que.
Drysdale, Thos., Allen's Corners, Que.
Dundon, Jno., St. Roch, Que.
Dunfield Bros., Dauphin, Man.
Dyment, N., Clappison's.
Eadie, J. R , Russell.
Eastman, J. M., Winchester.
Easton, Ed. H , Lyn.
Edwards & Co., W. C., Rockland.
Eyre, H. E., Chantry.
Farlinger, W. K., Morrisburg
Ferguson, J. A., Charlottetown, P.E.I.
Findlay, Jas., Beachburg.
Fisher, Hon. Syd., Knowlton, Que.
Gaw, Jas., Sheffordvale, Que.
Gibbons, W. T., Northcote.
Gilroy, Jas., Lyn.
Gerouard, Gil., St. Victoire, Que. .
Goodliffe, S. I., Sussex, N.B.
Greenshields, J. M., Danville, Que.
Greenway, Hon. T., Crystal City, Man
Guy, F. T., Darlington.
Greig, Wm., Allan's Corners, Que.
Hamilton, Jno., Grand Riviere, Que.
Hamilton, Wesley, Chesterville.
Hardy, W., Roland, Man.
Harper, Mrs. Wm., Elbe Mills.
Hay, Wm., Howick, Que.
Hearne, Michael, Burke, N.Y., U.S.A.
Hendry, Chas., Campbellford.
Henderson, B. M., Morton.
Henderson, G. G , Sarnia.
Hicks, Chas., Harrowsmith.
Hill, Geo., Delaware.
Hodson, F. W., Ottawa.
Holmes, Mrs. S. E., Russell.
Hudson, Jos., Lyn.
Hopkins, R., Cumming's Bridge.
Howden, Jno., St. Louis de Gouzaque, Que.
Howie, C. W., Eden.
Hume & Co., A., Menie.
Hunter, Robt., Maxville.

LIST OF MEMBERS.—*Concluded.*

Imerson, C. I., Lyn.
Innes, P., Coldbrook Station, N.S.
Irving, A., Scotstown, Que.
Jackson, F. I., Meadowvale.
Jackson, W. R., Buffalo, N.Y., U.S.
James, J. A., Milverton.
Jones, G. H., Bedford, Que.
Johnston, J. R., Lansdowne.
Justin, W. B., L'sgar.
Kains, Archie, Byron,
Kennedy & Son, A., Vernon.
Knight, J., Elginburg.
Lachappelle, Napier, St. Paul l' Hermite, Que.
Lafortune, D. A., St. Laurent, Que.
Lamarche, Horace, St. Esprit, Que.
Lavallie, Paul, St. Eustache, Que.
Legris, Ulderic, St. Leon, Que.
Leitch, David, Cornwall.
Logan, J. W., Allan's Corners, Que.
Longworth, R. E., Charlottetown, P.E.I.
Langelier Gus. A., Quebec, Que.
Mackie, Wm., Agassiz, B.C.
Marin, D. S., Petit Codiac, N.B.
Marsh & Sons, E., Gladstone.
Massey, Mrs. W. E. H., Coleman.
Mellick, Aaron, Smithville.
Massecotte, Clair, St. Prosper, Que.
Miller, Wm., Marshfield, P.E.I.
Morden, A. A., Wellington.
Mitchener, E., Red Deer, Alta.
Morrin, John, Belle Riviere, Que.
Morrin, Thos., Lachute, Que.
Mousseau, A., Berthier, Que.
Muir, G. H., Montreal, Que.
Muir, Arch., Huntingdon, Que.
Murphy, R. G., Elgin.
Murphy, Jer., Rockburn, Que.
McCallum, T. D., Danville, Que.
McCartney, T., Longburn, Man.
McCord, Jas., Prescott.
McCormick & Sons, J., Rockton.
McCubbin, Alex., Grand Freniere, Que.
McCullough, Jas., New Westminster, B.C.
McDonald, F. E., Bloomfield.
McDonald, John, New Glasgow, N.S.
McDowell, W., Vicars, Que.
McFarlane, D. A., Kelso, Que.
McFarlane, Robt., Riverfield, Que.
McGuffin, W. Thorndale.
McKee, H. & J., Norwich.
McKay, Wm., Morewood
McIntyre, Wm., Newington.
McLachlan, H. F., Arnprior.
McLellan, W. & A., Forrester's Falls.
McLeod, John, Ridgeway.
McLeod, W. D., Kirkhill
McIntosh, P., Cass Bridge.
McMaster, J. A., Westmount, Montreal, Que.
McMillan, D. E., Laggan.
McMonagle, W., Sussex, N. B.
McOnat, H. W., St. Andrews, Que.
McOnat, Jas., Brownsberg, Que.
Ness, Robt., Howick, Que.
Ness, R. R., Howick, Que.
Ogilvie, W. M., Lachine Rapids, Que.
Oliver, Adam, St. Marys.
Ontario Agricultural College, Guelph.
Owens, Hon. Wm., 401 Dorchester St., Montreal.
Parlee, M. H., Sussex, N.B.
Parker, W. D., Hatley, Que
Parsons, J. F., Barnston, Que.
Petar, Ed D., Parkdale, Man.
Paton, Hugh, Montreal, Que.
Phillip, John, Arkell.
Pope, J. C., Regina, Assa.
Provincial Stock Farm, Charlottetown, P.E.I.
Rathbun Co., Deseronto.
Redford, Robt., St. Anne de Bellevue, Que.
Reid, A. A., Escott.
Reid & Co., Hintonburg.
Rivet, Chas., Joliet, Que.
Robertson, A., Como, Que.
Robertson, R., Ag. School, Nappan, N.S.
Robertson, R., North Georgetown, Que.
Roy, A., Riverfield, Que.
Russell, J. R., Eady.
Ryan, Arthur, Fournier.
Savage, R. A., South Stukley, Que.
Sangster, R. R., Lancaster.
Scott, John, Austin, Minn., U.S.A.
Simpson, Jas., South Augusta.
Sims, John, Melbourne Ridge, Que.
Smith, A. W., Simcoe.
Smith, W. M., Scotland.
Snyder & Son, Attercliffe.
Staples, L. F., Ida.
Standish, Jas., Warden, Que.
Stacy, R. G., Lyn.
Steel Bros., Glenboro, Man.
Stephen, W. F., Trout River, Que.
Stewart, Wm., Jr., Menie.
Stewart, Jas., Sr., Menie.
Taylor, A. & R., Ladner, B.C.
Taylor, F. W., Wellman's Corners.
Terrill, A., Wooler.
Thibadeau, D., North Nation Mills, Que.
Thom, Wm., Lyndoch.
Thompson & Sons, St. James, Man.
Tipping, J. A., Clarenceville, Que.
Tisdale, N., Courtland.
Tram, W. H., Cedar Grove.
Tremble, A. H., Red Deer, Alta.
Trudel, T., St. Prosper, Que.
Trudel, J. F., St. Prosper, Que.
Turenne, Del., St. Paul l'Hermit, Que.
White Bros., Perth.
Welch, M. G., Sun, N.Y., U.S.A.
Wells & Son, A. G., Chilliwack, B.C.
Whittaker & Son, H. J., North Williamsburg.
Wilson, J. K., Alexandria
Wood, Andrew, Vankleek Hill.
Wooddesee Bros., Rothsay.
Wooley, J. W., Box 70, Simcoe.
Wylie, Wm., Howick, Que.
Wood, J. W., Short Hills, N. J., U.S.A.
Yates, Mahlon, Athens.
Yuill, Jos., Carleton Place.

PRIZE WINNING AYRSHIRES AT TORONTO INDUSTRIAL.

Bull, 3 years old and upwards.

1st. Douglasdale of Dam of Aber, (imp.)—12212—(3954), white, little brown on ears, calved April, 1897. Bred by R. M. Kinlay, Hillhouse, Sandilands, Scot.; sire, Douglas Chief of Hillhouse (3400); dam, Snowdrop of Hillhouse (5911). Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

2nd. Hover-a-Blink—9806—white, red markings, calved Aug. 5, 1898. Bred by exhibitors; sire, Dainty Lad of Elm Shade—2215—; dam, Jean Armour—2058—. Exhibitors, William Stewart & Son, Menie, Ont.

3rd. Prince of Barcheskie, (imp.)—1656—white and brown, calved Feb. 6, 1894. Bred by A Mitchell, Barcheskie, Scot.; sire, Norseman of Balmangan (3055); dam, Eva of Barcheskie—2505—. Exhibitors, A. Hume & Co., Menie, Ont.

4th. Black Prince of Whitehill, (imp.)—12208—dark brown and white, calved April, 1899. Bred by Robt. Woodburn, Jr., Whitehill, Galton, Scot.; sire, Prince Robert of Holehouse (4021); dam, Nora 2nd of Holehouse (9725). Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

Bull, 2 years old.

1st. Stirling Boy of Ste. Anne's—11730—white, small red spots, calved August 29, 1899. Bred by exhibitor; sire, Napoleon of Auchenbrain (imp.), 8303; dam, Lady Stirling 3rd, 6230. Exhibitor, R. Reford, Ste. Anne de Bellevue, Que.

2nd. Lord Roberts—11553—white, red markings, calved Aug. 13. 1899. Bred by exhibitors; sire, Glencairn of Burnside—8155—; dam, Jean Armour—2058—. Exhibitors, W. Stewart & Son, Menie, Ont.

3rd. A 1 of Dentonia, (imp.)—13667—white, dark spots, calved January, 1900. Bred by R. Young, Knockrioch, Campbelton, Scot.; sire, Ben d'or of Hillhouse (4124); dam, Dandy of Knockrioch. Exhibitor, Mrs. W. E. H. Massey, Toronto.

Bull, 1 year old.

1st. Glenlea of Ste. Anne's—14897—white, red cheeks, calved May 20, 1901. Bred by exhibitor; sire, Glencairn 3rd (imp.) 6955, dam, Lizzie 5th of Auchenbrain (imp.)—12293. Exhibitor, R. Reford, Ste. Anne de Bellevue, Que.

2nd. Tom—14295—white and brown, calved March 3, 1901. Bred by D. Drummond, Myrtle, Ont.; sire, St. Patrick—12580—; dam, Glen Bessie 4811. Exhibitors, R. Reid & Co., Hintonburg, Ont.

3rd. Dairyman of Glenora—13375—white and brown, calved Aug 25. 1900. Bred by W. W. Ogilvie & Co., Lachine Rapids, Que.; sire, Comrade of Garlaff (imp)—9183—; dam, Blood Forever of Wynholm (2619). Exhibitor, N. Dyment, Clappison's, Ont.

4th. King Edward—15339—spotted, white and red, calved April 20, 1901. Bred by exhibitors; sire, Caspian of Ste. Anne's (imp.)—8893—; dam, Sweet Brier—3007—. Exhibitors, A. Hume & Co., Menie, Ont.

Bull Calf, under 1 year.

1st. Maple Cliff Cock-a-bendie—14487—white, red spots, calved Aug. 10, 1901. Bred by exhibitors; sire, Duke of York 2nd (imp.)—2301—; dam, Peerless of Maple Cliff—12298—. Exhibitors, R. Reid & Co., Hintonburg, Ont.

2nd. Glencairn's Style of Ste. Anne's—14895—white, red cheeks, calved Aug. 26, 1901. Bred by exhibitor; sire, Glencairn 3rd (imp.) 6955; dam, Snowdrift of Barcheskie (imp.)—12291—. Exhibitor, R. Reford, Ste. Anne de Bellevue, Que.

3rd. First Choice of Glenora—14950—white and brown spots, calved Aug. 20, 1901. Bred by exhibitor; sire, Douglasdale of Dam of Aber (imp.)—12212—(3954); dam, Edith of Lessnessock (imp)—9166—(11782). Exhibitor, W W. Ogilvie, Lachine Rapids, Que.

4th. Silver Dollar—15087—white, with red spots, calved Aug. 15, 1901. Bred by J. McCormack & Son, Rockton, Ont.; sire, Glenora Sultan (imp)—10338—; dam, Sensation of Rockton 4th—2994—. Exhibitor, R. H. Henderson, Rockton, Ont.

Bull Calf, calved after Feb 1st, 1902.

1st. Maple Cliff Comrade—14489—white, red spots, calved Feb. 2, 1902. Bred by exhibitor; sire, Duke of York 2nd (imp.)—2301—; dam, Nellie of Maple Cliff—3009—. Exhibitors, R. Reid & Co, Hintonburg, Ont.

2nd. Hover's Heir of Menie—16054—white, red markings, calved April 11, 1902. Bred by exhibitors; sire, Hover-a-Blink—9806—; dam, White Floss of Menie—2589—. Exhibitors, W. Stewart & Son, Menie, Ont.

3rd. Choice Goods, 15043—mostly white, calved Feb. 17, 1902. Bred by exhibitors; sire, Prince of Barcheskie (imp)—1656—; dam, White Lady—9265—. Exhibitors, A. Hume & Co., Menie, Ont.

4th. Shiner—15048—nearly white, calved April 22, 1902. Bred by exhibitors; sire, Prince of Barcheskie (imp.)—1656—; dam, Minnie—10649—. Exhibitors, A. Hume & Co., Menie, Ont.

BULL, ANY AGE.

1st. Douglasdale of Dam of Aber (imp.)—12212—(3954). Exhibitor W.W [illegible], vie Lachine Rapids, Que.

COW, 4 YEARS OLD AND UPWARDS.

1st. Minnie of Lessnessock (imp.)—9176—(11787) white, calved April 1895. Bred by R. Wallace, Lessnessock, Ochiltree, Scot.; sire, Royal MacGregor of Lessnessock (3101); dam, Wyllie of Lessnessock. Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

2nd. Betsy 1st of Fairfield Mains (imp.)—12284—calved April, 1895. Bred by T. Howie, Fairfield Mains, Scot.; sire, Prince George of Fairfield Mains (3894); dam, Betsy of Fairfield Mains. Exhibitor, R. Reford, Ste. Anne de Bellevue, Que.

3rd. White Rose of Barmoorhill (imp.)—12227—(9042) white and brown spots, calved March 16, 1893. Bred by D. Gray, Barmoorhill, Scot.; sire, Young Kyle of Tongue (2607); dam, Forget-me-not of Barmoorhill (5683). Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

4th. Lady Ottawa—3001—white, red markings, calved Sept. 22, 1895. Bred by exhibitors; sire, Dundonald—1718—; dam, Jean Armour—2058—. Exhibitors, W. Stewart & Son, Menie, Ont.

COW, 3 YEARS OLD.

1st. Lady Grace of Ste Anne's—11729—white, red spots, calved April 14, 1899. Bred by exhibitor; sire, Glencairn 3rd (imp.) 6955; dam, Grace Darling 6170. Exhibitor, R. Reford, Ste Annede Bellevue, Que.

2nd. Molena of Ste. Anne's—10009—light brown and white, calved Oct. 22, 1898. Bred by exhibitor; sire, Glencairn 3rd (imp.) 6955; dam, Kirsty Wallace of Auchenbrain (imp.) (8301. Exhibitor, R. Reford, Ste Anne de Bellevue, Que.

3rd. Stately 9th of Muir (imp.)—12221—(13391) brown and white, calved March, 1899. Bred by James Murray, Muir, Scot.; sire, Wee Earl of Burnhead (3253); dam, Stately 5th of Muir (7895). Exhibitor, W.W.Ogilvie, Lachine Rapids, Que

4th. Annie Laurie 4th—10416—white and red, calved March 13, 1899. Bred by exhibitors; sire Glencairn of Burnside—8153—; dam Red Rose 3rd—2884—. Exhibitors, W. Stewart & Son, Menie, Ont.

COW, DRY, IN CALF, ANY AGE.

1st. Nellie Gray—2057—brown and white, calved Aug. 13, 1891. Bred by D. Morton & Sons, Hamilton, Ont., sire, Royal Chief (imp.)—75—; dam Maggie Brown of Barmoorhill (imp.)—1204—. Exhibitor, N. Dyment, Clappisons, Ont.

2nd. Georgina 2nd of Wynholm (imp.)—9168—, calved April, 1895. Bred by R. Osborne, Lockerbie, Scot.; sire, Cockie Leekie of Drumjoan (2626); dam, Georgina of Wynholm. Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

3rd. Miss Ida of Garlaff (imp.)—9184—white and brown, calved April, 1893. Bred by R.O P. Wardrop, Garlaff, Scot.; sire, Flynn Again of Garlaff (2364); dam, Ayrshire Lassie 5th of Garlaff (7229) Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

4th. Lady Stirling 3rd—6230—mostly white, few red spots, calved Sept. 19, 1892. Bred by D. McLachlan, Petite Cote, Que.; sire Silver King—5809—; dam, Lady Stirling—5683—. Exhibitor, Mrs. W.E.H.Massey, Toronto.

HEIFER, 2 YEARS OLD.

1st. Lost Chord of Dentonia (imp.)—13670—(13961) white, brown spots, calved March, 1900. Bred by James Howie, Hillhouse, Scot.; sire Traveller's Heir of Holehouse (2903); dam, Maud S. of Hillhouse (10402). Exhibitor, Mrs. W. E. H. Massey, Toronto.

2nd. Snowdrift—13942—white and red, calved May 23, 1901. Bred by W. Nichol, Plattsville, Ont.; sire, Lord Minto of Glenora (imp.)—10344—; dam, Queen Mab—11187—. Exhibitor, N. D. Liddicoat, Clappison's, Ont.

3rd. Grace Darling of Ste Anne's—13134—red, small spots, calved May 3, 1900. Bred by exhibitor; sire, Napoleon of Auchenbrain (imp.) 8303; dam, Grace Darling—6170—. Exhibitor, R. Reford, Ste Anne de Bellevue, Que.

4th. Highland Lass—12013—white, brown spots, calved Aug. 2, 1899. Bred by exhibitor; sire, White Chief of Ste Anne's—2086—; dam, Eva of Barcheskie (imp.)—2505—. Exhibitors, A. Hume & Co., Menie, Ont.

HEIFER, 1 YEAR OLD, OUT OF MILK.

1st. Bessie of Warkworth,—14175—white, red spots, calved Nov. 28, 1900. Bred by J. H. Douglas, Warkworth, Ont.; sire, White Prince 2nd (imp.)—808—; dam, Queen May—2815—. Exhibitors, W. Stewart & Son, Menie, Ont.

2nd. Lady Beatrice of Glenora—13485—white and brown, calved Aug. 8, 1900. Bred by exhibitor; sire, Comrade of Garlaff (imp.)—9183—(3551); dam, Georgina 2nd of Wynholm (imp.) 9168. Exhibitor, W.W. Ogilvie, Lachine Rapids, Que.

3rd. Bright Lady of Glenora—13482—white and brown, calved Aug. 21, 1900. Bred by exhibitor; sire, Comrade of Garlaff (imp.)—9183—; dam, Edith of Lessnessock (imp.)—9166—. Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

4th. Princess May of Glenora—13490—white and brown, calved Aug. 8, 1900. Bred by exhibitor; sire, Comrade of Garlaff (imp.)—9183—(3551); dam, Princess 7th of Tower (imp.)—9178—(11811). Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

HEIFER CALF, UNDER 1 YEAR.

1st. Lady Grace of Glenora—15229—white and brown, calved Aug. 10, 1901. Bred by exhibitor; sire, Douglasdale of Dam of Aber (imp.)—1221—; dam, Stately of Holehouse (imp.)—12222—. Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

2nd. Sterling Silver of Dentonia—15237—white and red, calved Dec. 27, 1901. Bred by exhibitor; sire, Silver Prince of St. Louis 7939; dam, Lady Stirling 3rd 6230. Exhibitor, Mrs. W. E. H. Massey, Toronto.

3rd. Ethel Mary Stewart—13829—white, red markings, calved Aug. 20, 1901. Bred by exhibitors; sire, Blair Athol of Ste Anne's—9995—; dam, May Mitchell—9237—. Exhibitors, W. Stewart & Son, Menie, Ont.

4th. Lady Osborne of Glenora—14953—white and brown, calved Nov. 24, 1901. Bred by exhibitor; sire Black Prince of Whitehill (imp.)—12208—; dam, Georgina 2nd of Wynholme (imp.)—9168—. Exhibitor W. W. Ogilvie, Lachine Rapids, Que.

HEIFER CALF, CALVED AFTER FEBRUARY 1ST, 1902.

1st. Lady's Princess of Menie—14603—white, brown spots, calved March 1st, 1902. Bred by exhibitors; sire, Prince of Barcheskie (imp.)—1656—; dam, Lady's Maid—3352—. Exhibitors, A. Hume & Co., Menie, Ont.

2nd. Lady Eileen of Glenora—15228—white and brown, calved March 28, 1902. Bred by exhibitor; sire Douglasdale of Dam of Aber (imp.)—12212—; dam Countess of Drumsuie (imp.)—9165—.

3rd. Hope of Menie—15045—mostly white, calved Feb. 28,1902. Bred by exhibitors; sire, White Cockade 10492—; dam, Lady Mitchell—3231—. Exhibitors, A. Hume & Co., Menie, Ont.

4th. Little Jean of Hickory Hill—15331—white and brown, calved Feb. 5, 1902. Bred by exhibitor; sire, Pride of Hickory Hill—12032—; dam, Lady Aberdeen—3284—. Exhibitor, N. Dyment, Clappison's, Ont.

FOUR ANIMALS, THE PROGENY OF ONE BULL, ALL BRED AND OWNED BY THE EXHIBITOR.

1st. Lady Beatrice of Glenora—13485—; Bright Lady of Glenora—13482—; Princess May of Glenora—13490—; Annie Laurie of Glenora—13481—. Sire—Comrade of Garlaff (imp.)—9193—. Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

2nd. Molena of Ste. Anne's—10009—; Lady Grace of Ste. Anne's—11729—; White Prim of Ste. Anne's—13145—; Countess of Ste. Anne's—11741—. Sire—Glencairn 3rd (imp.) 6955. Exhibitor, R. Reford, Ste. Anne de Bellevue, Que.

3rd. Eva's White Pearl—9263—; Little Love—10488—; Highland Lass—12013—; Irene of Menie—12014—. Sire—White Chief of St. Anne's—2086—. Exhibitors, A. Hume & Co., Meine, Ont.

4th. Stirling Boy of Ste. Anne's—11730—; Castlehill of Ste. Anne's—14890—; ——— ; ——— ; Sire, Napoleon of Auchenbrain (imp.) 8303.

HERD OF ONE BULL AND THREE HEIFERS UNDER TWO YEARS OLD, HEIFERS TO HAVE BEEN BRED BY EXHIBITOR, AND ALL TO BE OWNED BY HIM.

1st. Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.
2nd. " R. Reford, Ste. Anne de Bellevue, Que.
3rd. " W. W. Ogilvie, Lachine Rapids, Que.
4th. " A. Hume & Co., Menie, Ont.

HERD OF 1 BULL, ANY AGE, 2 FEMALES OVER 3 YRS. OLD, 1 FEMALE OVER 2 AND UNDER 3, 1 FEMALE OVER 1 AND UNDER 2, AND 1 FEMALE UNDER 1 YR., ALL OWNED BY EXHIBITOR.

1st. Douglasdale of Dam of Aber (imp.)—12212—; White Rose of Barmoorhill (imp)—12227—; Minnie of Lessnessock (imp.)—9176—; Glenora Conceit—11420—; Lady Beatrice of Glenora—13485—; Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

2nd. Stirling Boy of Ste. Anne's—11730—; Betsy 1st of Fairfield Mains (imp.)—12284—; Aunt Sally 9370: Princess of Ste. Anne's—11741—; Countess of Ste. Anne's—13131—; Belle 1st of Ste. Anne's—14888—. Exhibitor, R. Reford, Ste. Anne de Bellevue, Que.

3rd. Black Prince of Whitehill (imp.)—12208—; Violet 1st of Garlaff (imp.—12226—; Edith of Lessnessock (imp) 9166; Nanny Symington of Glenora (imp.(—13488—; Bright Lady of Glenora—13482—; Lady Osborne of Glenora—14953—. Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

4th. Prince of Barcheskie (imp.)—1656—; Eva of Barcheskie (imp.)—2505—; Eva's White Pearl—9263—; Irene of Menie—12014—; Eva of Menie—13655—; Blossom—15047—. Exhibitors, A. Hume & Co., Menie, Ont.

FEMALE, ANY AGE.

1st. Minnie of Lessnessock (imp.)—9176—. Exhibitor, W. W. Ogilvie, Lachine Rapids, Que.

CANADIAN HEREFORD BREEDERS ASSOCIATION.

ANNUAL MEETING.

The twelfth annual meeting of the Canadian Hereford Breeders' Association was held at the Royal Hotel, Guelph, on December 10th, 1902, the President, W. H. Hunter, "The Maples," in the chair.

Mr. Hunter, in his opening remarks, heartily welcomed the Hereford breeders to their annual meeting. He was glad to be able to say that the Hereford breed of cattle was improving, and becoming more popular every day. The demand thoughout Canada, and especially the North-west, was increasing, and he was pleased to see the energy put forth in the interest of the Hereford Association by the active members. His duties as President had not been very onerous. The thanks of the Association were due the Secretary-Treasurer, Mr. Henry Wade, who was a painstaking officer and who looked after the work of the Association to the satisfaction of all the members.

REPORT OF SECRETARY-TREASURER.

The past year has been a very successful one for the owners of Herefords. Many sales have been made and the stock of breeding animals left are not too plentiful. The young ones that can be spared have been snapped up at good prices. The auction sales in the United States have been most encouraging. I had the pleasure of attending the International Exposition at Chicago last week and really the display of Herefords was immense, both in number and in quality. No pains are spared in bringing out the animals in magnificent condition, and although they were not fortunate enough to win the grand sweepstakes—it being taken this year by a Polled Angus—they were not far off in the competition. At the Canadian shows they were well brought out. A list of the prize-winners has been prepared.

A new departure was taken this year in making the members of this Association members of the Dominion Cattle Breeders' Association, under the same rules and conditions as the Ayrshire and Shorthorn Breeders' Associations. The money paid in has been added as a fourth prize to Hereford cattle.

REGISTRATIONS. We have recorded 413 pedigrees and 205 transfers, quite over one hundred more than last year, but hope to exceed this next year.

MEMBERSHIP. Fifty-one members have paid during the last year, this number being eleven more than the previous year.

HERD BOOKS. The second volume has been completed and sent out to all members to whom it was due. There are 2,517 pedigrees in it, 696 bulls and 1,821 cows. It is a good-sized volume and will be a great boon to breeders of Herefords. We have made a good commencement on the third volume.

FINANCIAL STATEMENT.

Receipts.		Expenditures.	
To cash on hand Nov. 30, 1901	$407 47	By commission on 413 pedigrees at 35c	$144 25
Reg. fees to date	371 75	" 205 transfers at 10c	20 50
51 members paid	102 00		$164 75
		Printing and stationery	30 56
		Postage and telegrams	12 29
		Auditor and stenographer	8 00
		Cattle Breeders' Ass'n., paid for 36 members	18 00
		Error in 1901 accounts	7 00
		Printing 2nd vol., Murray Printing Co	393 45
		Cash, balance on hand Nov. 30, 1902	247 17
	$881 22		$881 22

(Signed) H. Wade,
Secretary-Treasurer.

Toronto, December 8th, 1902.

RESOLUTIONS.

The following resolutions were passed :

That the members of the Hereford Breeders' Association be made members of the Dominion Cattle Breeders' Association on the same terms as last year.

That the thanks of this meeting be tendered to Mr. H. Wade, the Secretary, and the Directors, for the able manner in which the business of the Association was conducted during the past year.

That the members of the Hereford Breeders' Association are much pleased with the increase in their business, both as to membership and registrations, and they hope that all members of the Association will help in the good cause of pushing with all their energy this valuable breed of cattle, and also in helping to open up new markets in the North-west and the other Provinces for the increase of their business.

OFFICERS FOR 1903.

President : W. H. Hunter, " The Maples."
Vice-President : R. J. Mackie, Oshawa.
Secretary-Treasurer and Editor : Henry Wade, Toronto,

Vice-Presidents for the Provinces.

North-west Territories—J. P. D. Van Veen, Assa.
Manitoba—J. C. Marples, Deleau, Man.
Quebec—H. D Smith, Compton, Que.
Maritime Provinces—W. W. Black, Amherst, N.S.
Ontario—J. A. McDermid, Stayner, Ont.

Secretary-Treasurer and Editor.

Henry Wade, Parliament Buildings, Toronto, Ont.

Directors :

Jno. Wallace, Cartwright, Man.
W. Bennett, Chatham.
T. H. Reid, Holstein.
F. M. Copeland, Harriston.
H. Reid, Mimosa.
R. W. Stutt, Forest.
A. H. O'Neill, Southgate.
Mossom Boyd, Bobcaygeon.

Delegates to the Toronto Industrial Exhibition : W. H. Hunter, R. J, Mackie.
To Ottawa Exposition : Samuel Gambell.
To London Exposition : Henry Wade and R. W. Stutt.
Delegates to Winnipeg Exposition : J. A. Chapman, Beresford, Man.
Delegates to Provincial Winter Fair, Guelph, 1903 : W. K. Gooding, Guelph, and W. H. Hunter.

LIST OF MEMBERS, 1902-1903.

Black, W. W. Amherst, N.S.
Boyd, Mossom, Bobcaygeon.
Cameron, A., Oak Lake, Man.
Campbell, R. A., Canyon, Texas.
Chapman, J. A., Beresford, Man.
Clifford, Wm., Austin, Man.
Coombs & Worley, Amarillo, Texas.
Coon, C. B., Sydney, B. C.
Copland, F. M., Harriston.
Curry, J., Newmarket.
Dowling, Jas., Streetsville.
Davidson Bros., Anagance, N.B.
Elliott, Wm., Porter's Hill.
Edwards & Co., W. C., Rockland.
McFarlane, Geo., Russell, Man.
Govenlock, John, Forest.
Hall, H. B., Gagetown, N.B.
Hammell, W. H., Beeton.
Hanna, E. W., Griswold, Man.
Harrell, E. D., Canyon, Texas, U.S.
Hodson, F. W., Ottawa.
Hunter, W. H., "The Maples."
Jackson, J. S., Ramona.
Kirkland, J. (Est.) Ladner, B. C.
Lambert, R., Kennell, Assa.
Leak, Wm., Watford.
Lee, R. E., Williamsford.
LeBoutillier, Peter, Minnedosa, Man.
Londy, L., Sault Ste. Marie.
Lovering, J. A., Coldwater.
Marples, J. E., Deleau, Man.
Miller, W. J., Solsgarth, Man.
Mille & Son, F. B., Solsgarth, Man.
Mackie, R. J., Oshawa.
McKenzie, Jas., Burnside, Man.
McLean, W. J., Elmgrove.
McDermid, J. A., Stayner.
McDermid, P. T., Duntroon.
O'Neill, Bros., Southgate.
Palmer, T. M., Medicine Hat, Assa.
Palmer, Oswald, Lacombe, Alta.
Phillips & McKellar, Brandon, Man.
Reaman, Isaac, Concord.
Reid, Thos. H., Holstein.
Reid, H., Mimosa.
Ross, J. & J. C., Minnedosa, Man.
Stone, A., Guelph.
Stone Stock Co. (The) F. W., Guelph.
Srigley, John, Allandale.
Stutt, R. & J., Forest.
Stutt, R. W., Forest.
Tough, Jas., Edmonton, Alta.
VanVeen, J., File Hills, Assa.
Wallace, John, Cartwright, Man.
Warnica, Asa, Painswick.
Webb, Geo., St. Helens.

PRIZE WINNING HEREFORDS.

TORONTO INDUSTRIAL EXHIBITION, 1902.

Herefords were, as usual, well shown by H. D. Smith, Compton, Que.; W. H. F
and the F. W. Stone Stock Co., Guelph. The cattle were well brought out, and.
was an improvement upon that of former years, the females being much better
The Judge was J. A. McDermid, of Stayner, Ont.
The list of winners is as follows :

BULL, 3 YEARS OLD AND UPWAR

1st, H. D. Smith, Prince of Ingleside 2nd—1702—.
2nd, F. W. Stone Co., Baronet (imp)—1292—.

BULL, 2 YEA

1st, and champion, W. H. Hunter, Spartacus—1
2nd. F. W. Stone Co., Stone's Clarence 2nd-

F UNDER 1 YEAR.

1st, H. D. Smith, Lord Ingleside 8
2nd, W. H. Hunter, Young Tor

1st, W. H. Hunter, Keeow, 4 YEARS OLD AND UPWARDS.
2nd, W. H. Hunter,
3rd, H. D. Smith, 17th of Ingleside.
elle of the Ball—1248—.
o., Duchess of Moreton 22nd.

1st, H. D COW, 3 YEARS OLD.
2nd, W
3rd champion, W. H. Hunter, Buttermaid 2nd—2133—.
. W. Stone Co., Peach 34th.
., H. D. Smith, Rubella of Ingleside.

HEIFER, 2 YEARS OLD.

1st, H. D. Smith, Ingleside Chatterbox.
2nd, H. D. Smith, Downton Ingleside 2nd, by Mark Hanna.
3rd, F. W. Stone Co., Peach 36th.

HEIFER, 1 YEAR OLD.

1st, F. W. Stone Stock Co., Sweetheart 34th.
2nd, H. D. Smith, Sylvan 15th of Ingleside.
3rd, W. H. Hunter, Likely K.—1781—.

HEIFER CALF UNDER 1 YEAR.

1st, H. D. Smith, Sylvian 19th of Ingleside.
2nd, F. W. Stone Co., Sweet Bar.
3rd, W. H. Hunter, Maple Lady.—1648—.

HERD CONSISTING OF 1 BULL AND 4 FEMALES OVER 1 YEAR.

1st, W. H. Hunter.
2nd, H. D. Smith.
3rd, F. W. Stone Stock Co.

WINNIPEG INDUSTRIAL, 1902.

Herefords were out in larger numbers and better condition than usual at this show. The exhibitors were—Mr. John Wallace of Cartwright, Man.; Mr. J. A. Chapman of Beresford, Man.; and Messrs. Benallack & La France of Winnipeg. The Judge was Prof. Curtiss of Ames, Iowa, U.S.
The list of awards was as follows:

BULL, 3 YEARS AND OVER. Sweepstakes winner was Wallace's four-year-old Young Actor.—1250—a typical representative of the approved stamp of the present day; he was bred by Van Natta of Indiana, sired by Actor and out of Lady Grace. He was closely pressed for preference by Chapman's Lord Ingleside VI—1742— a three-year-old of very similar stamp, bred by H. D. Smith of Compton, Que., and got by the Pan-American champion Mark Hanna—1042—. The 3rd place was taken by Benallack & La France's Lottery, a strong and vigorous four-year-old.

YEARLING CLASS. 1st, John Wallace, Roblin—1597—.

BULL CALVES. 1st, J. A. Chapman, Earl of Island Park; 2nd, John Wallace, Rogers—1598—; 3rd, Chapman, Prince of Island Park.

YEARLING HEIFERS. Very good ring of cows were shown and 1st prize was won by Wallace's Lady Belle 4th—Chapman's Fairy 5th; 3rd, Chapman's Victoria.

HEIFER CALF. 1st, J. A. Chapman, Downton Ingleside.

HERD, BEST FOUR. 1st, John Wallace, Mary Ann—1814—.

BEST TWO CALVES. Wallace, Sarah Maud—1815—.

BEST HERD, FOUR Chapman, Tusky of Island Park.

BEST THREE FEMALES, Wallace, Cartwright, Man.; FEMALES. 1st, John Wallace, Cartwright.
1st, J. A. Chapman, Beresford.

PROVINCIAL YEARS. 1st, John Wallace; 2nd, J. A. Chapman.

HERD OF ONE BULL BRED IN MANITOBA, N.W.T. OR B.C. 1st, John Chapman, Beresford, Man.

In Herefords the Kirkland estate sho[illegible] tion was lacking. Herefords bid fair to take [illegible] bulls are owned, especially in the Nicola Distri[illegible]

LONDON EXHIBITION, VICTORIA, B.C., 1902.

LONDON EXH[illegible] headed by a very blocky, level bull. Competition on the ranges of the interior and many good bulls are never seen at exhibitions.

Herefords were well represented by the herds of H. L[illegible] Maples," and O'Neill Bros., Southgate. Mr. A. W. Smith of [illegible] is the list of prizes awarded:

BULL, 3 YEARS AND UPWARDS. 1st, H. D. Smith, Compton; [illegible]ton, Que.; W. Hunter, "The

BULL, 2 YEARS OLD. 1st, W. H. Hunter, Orangeville. (Spartacus[illegible] as Judge. The following

BULL 1 YEAR OLD. 1st, H. D. Smith; 2nd, W. H. Hunter.

BULL CALF, UNDER 1 YEAR. 1st, W. H. Hunter; 2nd, H. D. Smith; 3rd, Southgate.

COW, 4 YEARS AND UPWARDS. 1st, H. D. Smith; 2nd and 3rd, W. H. Hunter.

COW, 3 YEARS OLD. 1st, W. H. Hunter; 2nd, H. D. Smith.

HEIFER, 2 YEARS OLD. 1st and 2nd, H. D. Smith; 3rd, W. H. Hunter.

HEIFER, 1 YEAR OLD. 1st, H. D. Smith; 2nd, W. H. Hunter; 3rd, O'Neill Bros.

HEIFER CALF, UNDER 1 YEAR. 1st, H. D. Smith; 2nd, W. H. Hunter; 3rd, O'Neill Bros.

BULL, ANY AGE. 1st, H. D. Smith. (Prince Ingleside 2nd —93917—).

FEMALE, ANY AGE. 1st, H. D. Smith. (Ingleside Chatterbox).

ONE BULL AND FOUR FEMALES, OVER 1 YEAR. 1st, H. D. Smith.

FOUR CALVES, UNDER 1 YEAR. 1st, W. H. Hunter.

PROVINCIAL EXHIBITION, HALIFAX, N.S., 1902.

W. W. Black of Amherst, had no competition in Herefords, except in two-year old bulls, in which section Wm. O'Brien of Windsor Forks, showed a capital bull of Black's breeding, which took 2nd place to Black's Cassio of Ingleside by Mark Hanna —1042—.

NEW BRUNSWICK EXHIBITION, 1902.

W. W. Black, Amherst, N.S., had things practically all his own way in this breed, but he brought out some thirteen head of creditable animals, headed by the aged bull Sir Horace —845—. As an assistant to Sir Horace he had a capital two-year old from the herd of H. D. Smith, Compton, Que. It is to be regretted that there was not more competition in this class.

OTTAWA EXHIBITION, 1902.

Herefords were well represented by the Ingleside herd of H. D. Smith, Compton, Que. His herd was brought in fine trim by his foreman, Mr. Fred. Norton. The championship bull was Prince Ingleside—83602— and the sweepstakes female the two-year old heifer, Ingleside Chatterbox, by Mark Hanna —1042—, out of (imp.) Chatterbox —78777—. The following is the list of awards:

BULL, 3 YEARS AND UPWARDS. 1st, H. D. Smith.

BULL, 1-YEAR-OLD. 1st, H. D. Smith.

BULL CALF, UNDER 1 YEAR. 1st and 2nd, H. D. Smith.

BULL, ANY AGE. Diploma, H. D. Smith.

COW, 3 YEARS OLD AND UPWARDS. 1st, 2nd 3rd, H. D. Smith.

HEIFER, 2 YEARS OLD. 1st, H. D. Smith.

HEIFER, 1-YEAR-OLD. 2nd, H. D. Smith.

HEITER CALF, UNDER ONE YEAR. 1st. H. D. Smith.

FEMALE, ANY AGE. Diploma, H. D. Smith.

HERD, CONSISTING OF ONE BULL AND FOUR FEMALES, OVER 1 YEAR. Gold medal and diploma, H. D. Smith.

CHARLOTTETOWN EXHIBITION, 1902.

In white faces W. W. Black of Amherst, N.S., stood alone, with seven entries, winning everything. The superb fit of his herd excited much favorable comment. The string with Sir Horace —845— at one end and Cassio of Ingleside at the other, supported by such individuals as Beatrice and Starlight, making a sight well worth seeing.

HACKNEY HORSE SOCIETY

ANNUAL MEETING.

The following are the minutes of the eleventh annual meeting of the Hackney Horse Society, held in Grand's Repository, Toronto, February 3rd, 1903, 3 p.m., the President, Thos. A. Graham, in the chair.

The minutes of the last meeting were taken as read.

REPORT OF SECRETARY-TREASURER.

I beg leave to present the eleventh annual Report of this Society, showing the business done for the year ending December 31st, 1902.

REGISTRATIONS. We have recorded 66 pedigrees this year, 20 more than the preceding one, showing that Hackneys are increasing in this country. A great many are recorded from Alberta and Manitoba, several having been graded up from foundation stock. This should be encouraged, and a new lot of inspectors should be appointed in different localities to assist in this good work. We have now over 400 pedigrees, quite sufficient to make a commencement by printing our first volume. Should like to be authorized to print it this season.

MEMBERS. We have had 22 paid memberships this year, one more than last. The subject of reducing the annual fee from $5 to $3 or $2 might be discussed, as no doubt we would have more members at a reduced rate.

PREMIUMS. We have paid out $105.25 this year in prizes at the Horse Show and Industrial Exhibition. The display was good, and this favorite, showy class of horse is proving to be a great success in Canada by his great action in harness, and the long prices paid for the half-bred which bears his sire's imprint.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31ST., 1902.

RECEIPTS.		EXPENDITURE.	
To balance on hand, Jan. 1st, 1902	$300 04	By prizes and medals	$105 25
" 22 members at $5	110 00	" stationery, postage, etc.	18 81
" registration fees to date	137 00	Auditor and stenographer	4 00
		By commission, 66 peds., 35c.; 3 trans., 15c	23 55
		" balance on hand	395 43
	$547 04		$547 04

I hereby certify that I have examined the books of the Canadian Hackney Horse Society, and that the above statement is correct and in accordance therewith,

CHAS. F. COMPLIN, Auditor.
HENRY WADE, Secretary-Treasurer.

Toronto, Ont., Jan, 20th, 1903,

OFFICERS FOR 1903.

President.....THOS. GRAHAM, Claremont.
1st Vice-President.....E. C. ATTRILL, Goderich.
2nd Vice-President.....E. C. H. TISDALE, Beaverton.

Vice-Presidents for the Provinces.

Ontario.....ROBERT DAVIES.....Toronto.
Quebec.....JAMES A. COCHRANE.....Hillhurst, Que.
Alberta.....A. M. RAWLINSON.....Calgary, Alta.
Manitoba.....J. A. S. MACMILLAN.....Brandon, Man.
New Brunswick.....J. R. FRINK.....St. John, N.B.

Directors.

H. N. Crossley, Rosseau, Ont. ; Robert Beith, M.P., Bowmanville ; Robert W. Davies, Toronto ; H. M. Robinson, Toronto ; Dr. A. Smith, Toronto ; Robert Bond, Toronto ; Geo. Pepper, Toronto ; Robert Miller, Stouffville ; Dent Dalton, Delhi.

Delegates to Industrial : Geo. Pepper, Toronto ; and E. C. H. Tisdale, Beaverton.
Delegates to Western Fair : Adam Beck, London ; and E. C. Attrill, Goderich.
Delegate to Ottawa : Robert Beith, M.P., Bowmanville.
Delegate to Montreal Spring Horse Show : Robert Ness, Howick, Que.
Delegates to Woodbridge Fair : John McDonald, Toronto ; John Holderness, Toronto ; and Robert Bond, Toronto.
Delegates to Horse Breeders' Association : H. N. Crossley, Rosseau ; and Thos. Graham, Claremont.
Auditor : C. F. Complin, London.
Secretary-Treasurer : H. Wade, Toronto.

Moved by H. N. Crossley, seconded by H. M. Robinson, "That the judges be cut out of the list." Carried.

RESOLUTIONS.

It was resolved : "That a motion be laid upon the table for the next annual meeting, for the fee to be reduced to $3.00."

"That the Secretary be authorized to publish a volume during the present year, and that Thos. Graham, the Secretary, and H. N. Crossley act as a committee to examine the pedigrees."

"That the Hackney Horse Society donate $50 to the Toronto Industrial Exhibition Association, and $50 to the Spring Horse Show, to be given in prizes for Hackneys, as the directors of these two associations see fit." Carried.

Communications were read from Jas. A. Turner and Chas. W. Peterson, of Calgary, Alta., asking that the Hackney Horse Society make a grant to the Calgary Exhibition, and on motion, it was resolved : "That this association donate a cup, valued at $25, to the Calgary Exhibition, to be awarded as the directors of that exhibition see fit."

A resolution, expressing the satisfaction of this association, with regard to the marked progress made during the past year by the Industrial Exhibition Association, of Toronto, as regards new buildings and improved accommodation for exhibitors, and approving of the proposed Dominion Exhibition to be held in Toronto, in 1903, was unanimously passed.

LIST OF MEMBERS, 1903.

Attrill, E. C., Goderich.
Beith, Robert, M.P., Bowmanville.
Bond, Robert, Toronto.
Cochran, Lew M., Crawfordville, Ind., U.S.
Crossley, H. N., Rosseau.
Davies, Robert, Toronto.
Davies, R. Jun., Todmorden.
Graham, Robert, Claremont.
Graham, T. E., "
Graham, William. "
Edwards & Co., W. C., Rockland.
Hodgkinson & Tisdale, Beaverton.
Hodson, F. W., Ottawa.
Miller, Robert, Stouffville, Ont.
McRae, C. L., Beaverton.
McDonald, John, Toronto.
Morris, Flora, Crawfordville, Ind., U.S.
Murray, J., Toronto.
Oille, J. L., V.S., Toronto,
Pepper, Geo., Toronto.
Simpson, D. B., Bowmanville.
Shier, A , Cannington.
Smith, Dr. And., Toronto.
Sorby, O., Guelph.
Rawlinson, A. M., Calgary, Alta.
Robinson, H. M., Toronto.
Richardson, F., Columbus.

PRIZE-WINNING HACKNEYS AT THE TORONTO INDUSTRIAL, 1902.

Stallion, 4 years old and upwards.

1st. Connaught's Heir (imp.)—116—chestnut, foaled in 1898. Bred by Earl of Durham, Durham, Eng.; sire, Lambton Connaught (5251) ; dam, Lady Confidence (686). Exhibitors, Bawden & McDonell, Exeter, Ont.

2nd. Attraction—144—(371) chestnut, blaze, 4 white stockings, foaled 1898. Bred by F. C. Stevens, Attica, N.Y.; sire, Fandango—143—(4256); dam, Wild Thyme (imp.) 490 (3372). Exhibitors, Graham Bros., Claremont, Ont.

3rd. Buller (imp.)—146—(7382) bay, foaled 1897. Bred by L. Palmer, Downham Market, Eng.; sire, Bonfire (2381); dam, Fanny (7845). Exhibitors, Bawden & McDonell, Exeter, Ont.

STALLION, 3 YEARS OLD.

1st. Bally Garton—142—(7348) dark chestnut, star, white hind heels, foaled 1899. Bred by F. J. Batchelor, Alvechurch, Eng.; sire, Garton Duke of Connaught (3009); dam, Lady Allington (6837). Exhibitor, R. Ness, Howick, Que.

2nd. Guelph Performer—89—brown, star on forehead, off hind foot white, foaled May 27, 1899. Bred by exhibitor; sire, Square Shot (imp.)—27—; dam, Miss Baker (imp.)—16—(4371). Exhibitors, Hastings Bros., Crosshill, Ont.

STALLION, 2 YEARS OLD.

1st. Thorncliffe Performer—104—bay, star in forehead, foaled June 1, 1900. Bred by Hon. M. H. Cochrane, Hillhurst, Que.; sire, Barthorpe Performer (imp.)—52—(5097); dam, Lady Lynn—118—(2934) 574. Exhibitor, Robt. Davies, Toronto, Ont

2nd. All Fours—145—459, chestnut, stripe, 4 white stockings, foaled 1900. Bred by F. C. Stevens, Attica, N.Y.; sire, Fandango—143—(4256); dam, Mischief (imp.) 718 (3081). Exhibitors, Graham Bros., Claremont, Ont.

3rd. Lord Brilliant—129—chestnut, star and stripe, foaled May, 1900. Bred by exhibitors; sire, Lord Rosebery (imp.)—9—402 (1307); dam, Trinket (imp.)—60—(873). Exhibitors, Graham Bros., Claremont, Ont.

STALLION, 1 YEAR OLD.

1st. Jubilee Performer—121—black, foaled June 15, 1901. Bred by O. Sorby, Guelph, Ont.; sire Jubilee Chief (imp.)—1—; dam, Miss Baker —16—. Exhibitor, T. A. Cox, Brantford, Ont.

2nd. Storm King—130—brown, star and stripe, off fore and hind legs white, foaled June, 1901. Bred by exhibitors; sire, Lord Rosebery (imp.)—9—402 (1307); dam, Trinket (imp.)—60—(873). Exhibitors, Graham Bros., Claremont, Ont.

STALLION, ANY AGE.

1st. Connaught Heir (imp.)—116—. Exhibitors, Bawden & McDonell, Exeter, Ont.

FILLY, 2 YEARS OLD.

1st. Queen of the Party—133—chestnut roan, stripe, off fore foot and hind legs white below joints, foaled April 12, 1900. Bred by H. N. Crossley, Rosseau, Ont.; sire, Rosseau Performer (imp.)—34—(5391); dam, Lady Cocking (imp.)—11—(5530). Exhibitor, H. N. Crossley, Rosseau, Ont.

BROOD MARE, WITH FOAL OF SAME BREED BY HER SIDE.

1st. Althorpe Countess—20—(635), roan, foaled in 1892. Bred by J. T. Browne, Doncaster, Eng.; sire, Enthorpe Performer (2973); dam, Fanny (111). Exhibitor, H. N. Crossley, Rosseau, Ont.

2nd. Danish Lady—129—9882, roan, foaled in 1897. Bred by Hon. H. M. Cochrane, Hillhurst, Que.; sire, Danish Duke—228—; dam, Lady Lynn—118—. Exhibitor, R. Davies, Toronto.

3rd. Beautiful Nell—84—bay, dark points, foaled June 26, 1898. Bred by A. G. Ramsay, Mt. Albion, Ont.; sire, Courier (imp.)—26—(1751); dam, Trinket (imp.)—60—(873). Exhibitors, Graham Bros., Claremont, Ont.

FOAL OF 1902.

1st. Squire of Chester—143—dark bay roan, star, off fore ankle, nigh fore coronet and hind legs white, foaled June 18, 1902. Bred by exhibitor; sire, Squire Rickell—74—; dam, Danish Lady—129—. Exhibitor, R. Davies, Toronto.

2nd. Rickell's Heiress—164—chestnut, foaled in 1902. Bred by exhibitor; sire, Squire Rickell—74—dam, Althorpe's Countess (imp.)—20—. Exhibitor, H. N. Crossley, Rosseau, Ont.

3rd. Leading Lady—166—chestnut, stripe, foaled May, 1902. Bred by exhibitors; sire, Stampede —103—; dam, Beautiful Nell—84—. Exhibitors, Graham Bros., Claremont, Ont.

MARE, ANY AGE.

1st. Queen of the Party—133—. Exhibitor, H. N. Crossley, Rosseau, Ont.

CLYDESDALE HORSE BREEDERS' ASSOCIATION.

ANNUAL MEETING.

The seventeenth annual meeting of this Association was held in Grand's Repository, Toronto, on February 3rd, 1903, 8 p.m. President Lt.-Col. McCrae in the chair. The minutes having been printed, they were accepted as read.

PRESIDENT'S ADDRESS.

By Lt.-Col. McCrae, Guelph, Ont.

I am pleased to see so many present at our annual meeting, and am glad to be able to say that the Clydesdale breeders have had a very successful year This will be more clearly shown by the Secretary's report which will be submitted to you. The Treasurer's report shows increases all along the line, more members fees, more registration fees, larger importations, and more business done than for many previous years. The export trade has also been fairly good. At our local shows there were good representatives of our favorite breed. At the International Show in Chicago our breed again swept everything before them and carried off the highest honors for draught horses. In the winning teams of six span one-half were from Canada, and in the class of aged Clyde stallions, a Canadian breeder won first place with an animal bred in America.

One of the pleasing things about the Chicago Show was the presence of Mr. A. Macneilage, the Secretary of the Clydesdale Stud Book of Great Britain; and later at Guelph. Many were delighted to hear his talks about draught horses, and especially about our favorite breed with which he is so familiar. He pointed out what a good market we have in Britain for all our surplus horses of good Clydesdale breeding, and that if these have quality and size they will always command paying prices. At present good heavy geldings of that type are worth in Glasgow from $400 to $500 each. Horses bred in Canada have won a good place in the estimation of old country buyers. They find them hardy, easily broken and very tractable, and if we in Canada will but breed the proper type and feed them to a good weight, there is a very large market for all we can spare.

At our last annual meeting an early Spring Show was advocated. Some were opposed to it, but the majority decided to try a February Show. The directors may well congratulate themselves on the result. You see how well we have succeeded. We have been able to bring together in this building one of the best shows of draught stallions ever held in Canada. We have not been able to carry out our schemes for the educational features that had been outlined, and this largely because no suitable building could be got in Toronto to hold the classes. This will no doubt be remedied in the near future, and we hope to see classes held on the breeding, handling, and judging of heavy horses that will be of benefit to the farmers and breeders of Canada.

REPORT OF SECRETARY-TREASURER.

Registrations We have recorded 694 pedigrees for which we received fees, and 278 from the Scotch book to complete the pedigrees of imported animals; 132 more than in 1901, and 358 over 1900.

Never in the history of the breed in Canada has the demand for Clydesdales of both sexes been as great as in the past twelve months. More have been imported than in any other one year.

Nothing shows more clearly that breeders are realizing the value of registration than the large number of Canadian mares that have been recorded.

This increase in registered mares furnishes us with excellent breeding stock, which will doubtless be bred only to recorded stallions, and will not only redound to the credit of the country but bring in a lot of new blood as well. Prices for such mares have been good, as high as $1200 having been paid for one team which did not trace to imported stock.

Stallion owners report having had good seasons, and there are now but few districts where the services of a Clydesdale stallion cannot be secured.

Heavy teams are always in demand in the old country at remunerative prices, so that there is no danger of the market being overstocked, provided the animals have the required weight and quality.

Stud Books. Volume XI. was completed and sent out, and Volume XII. is now in the hands of the printers. It will be considerably larger than Volume XI.

Exhibitions. Clydesdales were well represented at the Spring Stallion Show, the Industrial, Western and Ottawa Exhibitions; also at Winnipeg, where a handsome silver cup was donated, as well as at Brandon, Man.; Calgary, Alta; Halifax, N. S., and St. Johns, N. B. A silver cup was given at all these places. A full list of the prizes will be given in the Government Report.

Substitution of numbers in our book for the Scotch Appendix. The Scotch Appendix, which was intended to supply the pedigrees recorded in the Scotch Book which appeared in the body of the pedigrees of imported animals, has never quite fulfilled the purpose for which it was intended. In the first place, but few breeders knew of its existence; or if they knew, did not understand its purpose. Even those familiar with the Stud Book might have to look through the indexes of all the Volumes from I. to X. to find the pedigree wanted.

Now, as they do in every American Record either of horses, cattle, sheep or swine, (they had the old system themselves before), we number these Scotch pedigrees in our book, and quote both numbers in the pedigrees in which they appear. The cost of printing is the same as if they were hidden in the back of the book, and the work of looking them up mimimized.

It seems to me that a fee of 50 cents should be charged for each one of these ancestors. As many as twelve have sometimes to be brought in in order to complete the pedigree of one imported horse, for which we receive $1.00, and make out and print 13 pedigrees. The clerical work alone costs more than the amount paid. The cost of printing, say at $1 per page, with five pedigrees on a page would be $2.50. Of course the above is an extreme case. The average would probably not exceed three ancestors to each imported horse, but the Scotch pedigrees must be in our book in order to make it complete, and a reasonable fee should be charged for recording them.

There were so many of these pedigrees in Volume XI. that I have charged a commission of 15 cents each to cover cost of clerical work, which, with the exception of making out certificates, is as great as in recording regular pedigrees for which fees are paid.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31ST, 1902.

RECEIPTS.		EXPENDITURE.	
Balance brought from 1901	$387 96	Insurance on Books	$11.48
239 Members at $2.00	478 00	Printing and Stationery	58.95
Registrations fees	829.00	Postage and Telegrams	36.78
		Stenographer and Auditor	10.00
		Prizes and Prize Cups	352.50
		Balance Printing, Vol. XI	254.50
		Committee Expenses	114.50
		Commission 694 peds. at 35c., $242.90. " 415 trans. at 15c., $62.25.	305.15
		Balance on hand	1,051 10
	$2,194.96		$2,194.96

I hereby certify that I have examined the books and accounts of the Clydesdale Horse Breeders Association, and that the foregoing statement is correct and in accordance therewith.

CHAS. F. COMPLIN, AUDITOR.

TORONTO, ONT., *Jan. 22nd, 1903.*

HENRY WADE, SECRETARY-TREASURER.

Moved by John Bright, seconded by William Graham, that the Secretary-Treasurer's Report be adopted. Carried.

OFFICERS FOR 1903.

President	WILLIAM SMITH, Columbus.
First Vice-President	F. W. HODSON, Ottawa, Ont.
Vice President for Ontario	O. SORBY, Guelph.
Vice-President for Quebec	ROBERT NESS, Howick, Que.
Vice-President for Manitoba	J. A. S. MCMILLAN, Brandon, Man.
Vice-Presidents for the Territories	J. A. TURNER, Calgary, Alta., and A. MUTCH, Lumsden, Assa.

Directors:

THOS. GRAHAM, Claremont; GEO. GORMLEY, Unionville; JOHN VIPOND, BROOKLIN; JOHN BRIGHT, Myrtle; PETER CHRISTIE, Manchester; H. G. BOAG, Churchill; J. M. GARDHOUSE, Highfield.

Delegates to the Industrial Exhibition: ROBT. BEITH, M.P., Bowmanville; WILLIAM SMITH, Columbus.

Delegates to the Ottawa Exhibition: PETER CHRISTIE, Manchester; and DAVID MCCRAE, Guelph.

Delegates to Westen Fair: ALEX. INNES, Clinton; and JAS. HENDERSON, Belton.

Delegates to Quebec and Sherbrooke: R. NESS, Howick, Que.; and GEO. STEWART, Howick, Que.

Delegates to Horse Breeders' Association: PETER CHRISTIE, Manchester; and FRED RICHARDSON, Columbus.

JUDGES.

Moved by John Howden, seconded by H. G. Boag, "That the Board of Directors be requested to nominate for each of the large shows competent persons to judge in the Clyde classes." Carried.

Suggestion by Col. McGillivray; "The Board of Directors be requested to hand in the names of those who are to judge at the Toronto Industrial at as early a date as possible."

RESOLUTIONS.

It was resolved: "That the matter of grants to exhibitions be left in the hands of the Board."

"That we instruct the Board of Directors that a cup be given by this Association, and that the cup be won twice—not necessarily by the same horse—before it becomes the property of the winner in each case." Carried.

"That the Board of Directors be requested to remember the claims of Quebec when arranging the places which will receive cups during the following year." Carried.

A communication was read from Chas. W. Peterson, Secretary Territorial Horse Breeders' Association, Regina, Assa., asking for a grant from the Clydesdale Association for special prizes at their Spring Stallion Show at Calgary.

A letter was read from John A. Turner, Calgary, Alta., asking the Association to grant champion prizes for males and females at their Stallion Show in May and Inter-Western Exhibition in July, at Calgary.

A letter was also read from Thos. Skinner, Mitchell, asking the Association to prevail on the Government to exempt pure-bred horses for breeding purposes from taxation.

The first two letters were referred to the Board of Directors, and the latter was laid on the table.

"That the Clydesdale Association tender a vote of thanks to Mr. Walter Harland Smith for the generous manner in which he has acted towards them in placing at their disposal his fine Repository for holding the Show and Annual Meetings." Unanimously carried.

"That this Association tender a hearty vote of thanks to the retiring President and Directors for the good work they have done in the past." Carried.

On motion, a resolution, noting with satisfaction the marked progress made during the past year by the Industrial Exhibition Association of Toronto, and approving of the proposed Dominion Exhibition to be held in Toronto in 1903, was unanimously adopted.

President-elect William Smith, in taking the chair, said that seventeen years ago Lt.-Col. McCrae was elected president, and he was the next one. At that time the first Heavy Horse Show was inaugurated, and held down at the market on the public street. This year they were holding the Heavy Horse Show separately from the regular Canadian Horse Show, not because they did not want the Spring Show to be successful, but they believed it was in their interests to step away from them this year, and he felt sure, judging from the number of entries received, this was the greatest Heavy Horse Show ever held in Canada.

Mr. Smith complained of the lack of accommodation the live stock interests were receiving in this Province. He said he had the live interests of this country at heart, and felt there was a certain amount of money invested in Guelph rather unwisely, and if he had his way he would have taken one of the blocks in Toronto, to a great extent controlled by the Government, and erected a building at considerable cost that would be a credit to the Province of Ontario. Continuing he said : When we consider the Fat Stock Show, when we consider the Heavy Horse Show, when we consider the Spring Show—to a certain extent controlled by those interested in the lighter breed of horses—we should have better accommodation in the Province. I am going to say no man will endorse the Minister of Agriculture's conduct quicker than I will if he will work on the lines I have outlined here to night. The objection might be taken that it will take a great deal of money, but the people of this Province are prepared to put up the money, and the Government that will do that will have a lease of power in this Province.

Lt.-Col. McGILLIVRAY : In reference to the remarks in regard to getting a building in Toronto, a more central building for agricultural purposes. Now I think this meeting is composed of men of all parties and interested in the horse, and if they took a definite stand and passed a resolution here along the lines of your remarks—to have some central building erected here—it would have great weight. I think it is but just and due to him, Hon. John Dryden, to say that he does, so far as I have been able to judge, all in his power to promote the in-

terests of the farmers of this Province, and I feel sure if you pass a resolution you will have his support. Col. McGillivray, in speaking further, said it was a shame the way the Guelph people had treated them. Before the Fat Stock Show had been located the people of Guelph came to the Live Stock Associations, and said they would give all the accommodation required ; and, with the single exception of the building, they had not received the accommodation that was required, and they had told Major Hood the other day in one of the meetings that perhaps at the expiration of the agreement in seven years they would pick up and come to Toronto.

Lt.-Col. McCrae, in defending Guelph, said that Toronto had the chance for many years, and they would not take it. The Stock Association had begged Toronto year, after year to do something in the way of giving suitable accommodation for live stock exhibitions, but they would do nothing. He thought Guelph deserved credit for what it had done.

No definite action was taken in regard to the matter of having a Live Stock Building erected in the City of Toronto.

IMPORTATION OF INFERIOR SIRES.

John Bright moved that the sum of $75 be donated by this Association for the purpose of advertising and assisting in selling Ontario horses in the West. Mr. J. M. Gardhouse seconded this, but on putting it to the meeting it was lost. However, this brought out a good deal of a discussion in regard to the inferior animals the Americans were allowed to ship into the West with practically no duty to pay on them, and it was greatly injuring the trade of the Ontario breeders.

J. B. Hogate thought that the Association should request the Government to enact a law which would make it as difficult for Americans to bring their stock into this country as it is for Canadians to take their stock into the United States.

Robert Ness said no horse should be allowed to enter Canada unless he was up to a certain standard. More than the half of the horses imported, he said, were the culls of the different breeds.

Robert Beith, M. P., said they had discussed this matter with the Minister of Agriculture, and they thought there should be a degree of excellency, but the great difficulty would be to say just what standard they should require.

Mr. Ness suggested all animals coming in should be sound. There were a good many broken-winded ones coming in now.

The following resolutions was then drawn up :

" That the Government be asked to place the same restrictions upon horses coming into Canada from foreign countries that such countries place upon Canadian horses going into said countries." Carried.

The following committee was appointed to convey the opinion of the meeting to the Government : Robt. Beith, M. P. ; Robt. Ness, Lt.-Col. McCrae, Wm. Smith Ex.-M. P. and Dr. And. Smith.

The meeting then adjourned.

LIST OF MEMBERS OF CLYDESDALE HORSE BREEDERS' ASSOCIATION, 1903.

Annis, Lewis, Courtice.
Armstrong George, Speedside.
Aitchison, And., Guelph.
Alsop, Joseph, Glasgow.
Attrill, E C., Goderich.
Bawden & McDonald, Exeter.
Bell, W. N. & R. A., Brittania Bay.
Bell, A. & J., Athelstane, Que.
Beith, Robert. Bowmanville.
Bennie, G. & W., Castleavery, Man.
Bennett, D., Dutton.
Beswetherick, Wm., Hagersville.
Bessner, Eugene, South Vancouver, B.C.
Black, J. J., Morewood.
Black, W. W., Amherst, N.S.
Boag, H. G., Churchill.
Bostwick, Alf., Temperanceville.
Birrill, D., Greenwood.
Brewster, Wm., McIntyre.
Brodie, G. A., Bethesda.
Bright, John, Myrtle.
Brown, T. A., Stockton, Man.
Brown, W. G., Fergus.
Brumwell, I., Victoria Square.
Bulmer, R., Forrester's Falls.
Butler, E., Ingersoll.
Byerly, R. R., Cook's Creek, Man.
Bull Bros., Yorktown, Assa.
Bell, John, Audley.
Balsdon, John, Oshawa.
Bright, Wm., Raglan.
Bostwick, W. M., Vandorf.
Brooks, G. S., Bond Head.
Calder, Charles, Brooklin.
Cairns, Thomas, Dublin.
Campbell, C., Etobicoke.
Campbell, J. M., Anderson.
Campbell Bros., Heather.
Campbell, A., Howick, Que.
Carstairs, D., Bomanton.
Cargill & Sons, H., Cargill
Chapman Bros., Kirby.
Chapman, N., Audley.
Chisholm, James, Dunlop.
Charlton, E. & W., Duncrief.
Christie, P., Manchester.
Clark, J. G., Ottawa.
Colquhoun, Wm., Mitchell.
Cook, G. J., Ingersoll.
Cordiner, John, Ennotville.
Courcy, John, Lucan.
Courtney, A. C., Dunbarton.
Cowan, W. I., Cannington.
Cowie, John W., Markham.
Cox, Robert, Amber.
Cox, John, Amber.
Cooper, George, Claremont.
Clark, C. E., St. Cloud, Minn., U.S.A.
Coates, W. H., Claremont.
Crowell, James, Oshawa.
Christie, W. L., High River, Alta.
Dalgety Bros., London.
Davidson, John, Ashburn.
Davidson, James, Balsam.
Davidson, Peter, Fergus.
Davidson, George, Cherrywood.
Davidson, K., Beaverton.
Davies, Robert, Toronto.
Davies, G. T., Toronto.
Davy, W. J., Whitby.
Davis & Graham, Schomberg.
Devitt & Son, I., Freeman.
Dickieson, R., Guelph.
Doherty, Alex., Ellesmere.
Doherty, Wm., Ellesmere.
Douglas, P., Madford, Man.
Duff, Robert, Myrtle.
Dybert, R. F., Springville, N.Y., U.S.A.
Davidson, J. C., Little Britain.
Eadie, A. G , Vars.
Eaid, C. E., V.S., Simcoe.
Edwards & Co., W. C., Rockland.
Elliott, James, Tullamore.
Faulds, Wm., Muncey.
Fawn Bros., Claremont.
Ficht, Val., Oriel.
Filey, C , Stratford.
Ford, E., Fergus.
Forgie, John, Claremont.
Foster & Son, Wm., Humber.
Frazer & Son, W., Emerson, Man.
Frazer & Son, J. H., Indian Head, Assa.
Frayn, Wm , Springbank, Alta.
Gardner, W. H , Ashburn.
Gardhouse, J. M., Weston.
Gormely, A. G., Unionville.
Graham, Robert, Claremont.
Graham, T. A., Claremont.
Graham, J. & W., Claremont.
Graham, Wm., Barrie.
Gray, George, Newcastle.
Gray, John, Atwood.
Gray, J. & W., Londesboro'.
Grier, James, Ormstown, Que.
Groat, Charles, Brooklin.
Gorlin, James, Lindsay.
Gifford, E. A., Taunton.
Glaspel, W., Taunton.
Gregg, Thomas, Claremont.
Harn, John, Brougham.
Hartman, L. L., Aurora.
Hay, John, Austin, N. Dak., U.S.A.
Hendrie, Wm., jr., Hamilion.
Hemmingway, M. R., Unionville.
Henderson, James, Belton.
Hepburn, Wm., Foley.
Herold, P., V.S., Tavistock.
Hodgkinson & Tisdale, Beaverton.
Hodson, F. W., Ottawa.
Howard, W. J., Dollar.
Howden & Son, J. D., Whitby.
Hosken, A. E., Cobourg.
Hummason, I., Embro.
Hubbell, D. A., Myrtle.
Hastin, C , Stittsville.
Hadden & Sons, G., Wick.
Hall, Michael, Wishart, Assa.
Ireson, C. E , Toronto.
Isaac, George., Bomanton.
Isaac, John, Markham.
Ismond, Kenlis, Assa.
Jackson & Son, George, Downsview.
Jackson, Richard, Alma.
Jeffrey Bros., Whitby.
Kirton, John, Wick.
Laing, Thomas, Eburne, B.C.
Lane, Hy., Columbus.
Laurie, Jno., Malvern.
Laycock & Son, Calgary, Alta.
Langdon, Hy., Hazeldean.
Laviolette, Jos., Virginia.
Linton, Wm., Claremont.
Leonard, Jas., Schomberg.
Legge, T. H., Temperanceville.
Lensteal, W. D., Queensville.
Little, D., Portage la Prairie, Man.
Little, Jno., Okotoks, Alta.
Little, S. G., Hagerman.
Loughead, H. P., Heathcote.
Lee, G. F., Claremont.

LIST OF MEMBERS.—*Continued.*

Madill, E., Streetsville.
Marshall, R., Elora.
Morton, N. R., Yatton.
Major Bros., Whitevale.
Millard, J. H., Altona.
Miller, Robt., Stouffville.
Miller, R. H., Lumsden, Assa.
Moffatt, Jas., Teeswater.
Moffatt, Thos., Clarke.
Moodie, Wm., De Winton, Alta.
Moore, Geo., Waterloo.
Morris, E. J. C., Stouffville.
Mossop, Wm., St. Mary's.
Mutch, A. & G., Lumsden, Assa.
Meloe, J. A., Spiers.
Myles, J. & A., Thornbury.
McBeth, D., Oak Lake, Man.
McBruce, Robt., Chatsworth.
McCaig, Alex., Aberfoyle.
McCaig, H., Aberfoyle.
McCallum, Jno., Dauphin, Man.
McCreight, Jas. Cherrywood.
McEachren, R. R., Eldon.
McFarlane, Jno., Moose Jaw, Assa.
McGeachy, D. & R., Coleraine.
McGerrigle, J. R., Ormstown, Que.
McGee, Wm., Yelverton.
M Gillivray, J., Uxbridge.
McGowan, R. C., Blyth
McIntosh, Wm., Burgoyne.
McKenzie, Jno., Columbus
McKinnon, D., Hillsburg.
McMane, Allan, Donegal.
McMillan, J. A. S., Brandon, Man.
McDonald, A., Granton.
McRae & Son, J., Cherrywood.
McFarlane, D. A., Huntingdon, Que.
McTaggert, Wm., Appin.
Ness, Robt., Howick, Que
Newman, Robt., Woodford.
Nichol, Geo., Waubuno.
Noble, Jos., Toronto.
Norton, Jas., Goodwood
Ormiston, Wm., Columbus.
Paton, Hugh, Montreal, Que.
Paul, Hy., Blackstock.
Peterson, A., Hawksville.
Pringle, Alex, Unionville
Postlewaite, W., Brandon, Man.
Pugh, W. D., Claremont
Puckrin, Thos., Audley.
Power, Chester, Bowmanville.
Paton, Jas., Swinborn Park.
Peel, John, Chatham.
Pugh, D. E., Pickering
Paling, R. & C., Tyneside.
Rae, Walter, Avonton.
Rankin, J. R., Hamiota, Man.
Reid, W. T., Woodville.
Richardson, F., Columbus.
Rinn, A., Koleida, Man.
Robertson, T. W., High River, Alta.
Robinson, Mrs J. W., St. Mary's.
Robson, G. C., Duncrief.
Rosevear, A. H., Roseneath.
Ross, Jas., Inverhaugh.
Russell, A. S., Carrville.
Russell, D., Brougham.
Routledge, W. H., Streetsville.
Richardson, Lew., Columbus
Sawden, R., Sydenham St., Toronto.
Semple, H., Hereward.
Scott, A. B., Vanneck.
Scott, Hugh, Bedford Park.
Shannon Bros., Cloverdale, B.C.
Siddal, F. H., Ailsa Craig.
Sims, Bros., Thamesford.
Skinner, Thos., Mitchell.
Smith, A. J., Myrtle.
Smith, J. E., Brandon, Man.
Smith, Wm., Columbus.
Smith, Mary Ann, Yorktown, Assa.
Sorby, D. & O., Guelph.
Southard, J. H., Lifford.
Stephens & Sons, L. E., Robinson, Ill., U.S.
Stephens, Jno., Anderson.
Stewart, G. G., Howick, Que.
Stevenson, D., Wawanesa, Man.
Storey, A., Claremont.
Storey, H., Picton.
Stock & Hendrie, St. Marys.
Shattuck, W. D., Langdon, Alta.
Spears, J. V., Arba.
Taylor, Thos, Harwich.
Taylor, Jos., Elgin, Man.
Telfer, J. R., Waterdown.
Thompson, P., Pilot Mound, Man.
Thomson, D., Davisburg, Alta.
Toole, J. C., Mt. Albert.
Torrance, Jas., Markham.
Trick, Rich., Unionville.
Turner, J. A., Calgary, Alta.
Turner, Robt., Millarville, Alta.
Van Horne, Sir Wm., Montreal, Que.
Vipond, Jno., Brooklin.
Wagg, Nelson, Claremont.
Wallace, Jno., Granton.
Walker, T., 119 St. George St., Toronto.
Watt, J. & W. R., Salem.
Wells, A. B., King.
Wells, J. R., King
Wells, W. J., Temperanceville.
Ward, W. J., Woodhill.
White, J., Ashdown
Wilkie, Wm., Toronto.
Willis, Rich, Pine Grove.
Wilson, Wm., Oshawa.
Wren, C., Uxbridge.
Wright, L. A., Salisbury, N.B
Wood, Thos., Blackstock.
Wildbrook, W., Hagersville.
White, J. W., Brooklin.
Warrilow, Jno., Owen Sound.
Yake, P., Kintore.
Yake, P., Kintore.
Young, R. B., Binkham.
Young, S., Guelph.

PRIZE-WINNING CLYDESDALES AT THE TORONTO INDUSTRIAL EXHIBITION, 1902.

Stallion, four years old and upwards.

1st. Young Macqueen [2290] 8033, bay, 4 white feet and stripe on face, foaled in 1894. Bred by R. B. Ogilvie, Madison, Wis; sire, Macqueen (imp.) [462]; dam, Belle of the Lyons (imp.) [2325]. Exhibitor, Richmond Hill Horse Breeders' Association, Richmond Hill, Ont.

2nd. Burnbrae [2707] 8378, bay, stripe, four white legs, foaled May 17, 1895. Bred by N. P. Clarke, St. Cloud, Minn.; sire, Rosewood (imp.) [2708] 6775 (7207); dam, Young Bloom (imp.) [2407] 7554. Exhibitors, Graham Bros., Claremont, Ont.

3rd. Peerless (imp.) [3374] (10832) dark bay, ratch, off fore and both hind legs white, foaled April 20, 1898. Bred by Earl of Strathmore, Scotland; sire, Mains of Aires (10379); dam, Princess of Glamis (12342). Exhibitor, Wm. Colquhoun, Mitchell, Ont.

4th. Scottish Celt (imp.) [2749] (10047), bay, hind legs white, foaled June 30, 1893. Bred by W. O'Neill, Ireland; sire, Macgregor (1487); dam, Sweet Lavender (12289). Exhibitor, Geo. Clayton, Peepabun, Ont.

Stallion three years old.

1st. Prince Fragrant (imp.) [3373] (11460), bay, white face, fore legs grey, hind legs white, foaled July 28, 1899. Bred by J. Fleming, Arbroath, Scot.; sire, Sir Christopher (10286); dam, Belle of Friock Mains (14212). Exhibitor, W. Colquhoun, Mitchell, Ont.

2nd. Bucephalus (imp.) [3335] (11288), black, stripe on face, 3 white feet, foaled May, 1899. Bred by D. Dow, Balmanno, Scot.; sire, Sir Christopher (10286); dam, Jean 10th of Balmanno [13766]. Exhibitors, Graham Bros., Claremont, Ont.

3rd. Canada's Pride (imp.) [3314], bay, ratch, off hind foot and leg white, near hind foot and pastern white, foaled May 11, 1899. Bred by R. McBroadfoot, Wigtonshire, Scot.; sire, Prince Sturdy (10112); dam, The Belle (vol. 24 s.) Exhibitor, T. Rafter, Jr., Arthur, Ont.

4th. Laurentian [2954], bay, stripe, off hind leg white, foaled May 26, 1899. Bred by exhibitor; sire, Lawrence Again (imp.) [2047]; dam, Rose Leaf (imp.) [2465.] Exhibitor, R. Ness, Howick, Que.

Stallion, two years old.

1st. Fidelity (imp.) [3347] (vol. 25 s.), bay, stripe, white on feet, foaled in 1900. Bred by P. Carruthers, Dumfries, Scot; sire, Prince Shapely [3227] (10111); dam Abbess 2nd [3801]. Exhibitors, Dalgety Bros., London, Ont.

2nd. Mosstrooper Champion (imp.) [3346] (vol. 25 s.), bay, stripe, near fore and both hind legs white, foaled May 12, 1900. Bred by S. T. & J. Wood, Wigton, Scot.; sire, Lothian Mosstrooper [3519] (10375); dam, Lady Jess [3797]. Exhibitors, Dalgety Bros., London, Ont.

3rd. Golden Charm. Exhibitors, Bawden & McDonell, Exeter, Ont.

Stallion, one year old.

1st. Alexander Macqueen [3291], bay, face, off fore and both hind feet white, foaled April 20, 1901. Bred by exhibitor; sire, Macqueen (imp.) [462]; dam, Nellie Rosewood [3486]. Exhibitor, J. W. Cowie, Markham, Ont.

2nd. Brave Wauchope [3334], bay, blaze, four white ankles, foaled April 12, 1901. Bred by exhibitor; sire, King Lynedoch [2378]; dam, Young Lily (imp.) [1672]. Exhibitor, Robert Davies, Toronto.

3rd. Royal Charger [3325], dark bay, star, little white on one fore leg, hind legs white, foaled July 1, 1901. Bred by exhibitors; sire, Royal Cairnton (imp.) [2730] (10875); dam, Bonnie Bess [2228] (8307). Exhibitors, Jno. Miller & Sons, Brougham, Ont.

Stallion, any age.

1st. Young Macqueen. Exhibitors, Richmond Hill Horse Breeders' Association, Richmond Hill, Ont.

Filly, three years old.

1st. Nelly Lynedoch [2603], light bay, three white feet, foaled Feb. 18, 1899. Bred by exhibitor; sire, King's Own [2172]; dam, Nelly [1323] Exhibitor, Robert Davies, Toronto.

Filly, two years old.

1st. Royal Queen [2802], bright bay, stripe in face, foaled May 23, 1900. Bred by exhibitors; sire, Macqueen (imp.) [462] (5200); dam, Royal Princess [2345]. Exhibitors, Hodgkinson & Tisdale, Beaverton, Ont.

2nd. . . . Exhibitors, Bawden & McDonell, Exeter, Ont.

3rd. Princess Royal [3552], brown, star, off hind ankle and nigh hind leg white, foaled June 9, 1900. Bred by exhibitor; sire, Prince of The Glen [2306]; dam, Candour [1656]. Exhibitor, R. Davies, Toronto.

Filly, one year old.

1st. Startling [3551], brown, four white ankles, foaled June 27, 1901 Bred by exhibitor; sire, Lyon Macgregor [2308]; dam, Queen Esther [2750]. Exhibitor, Robert Davies, Toronto.

2nd. Effie Carly [3097], bay, ratch, white on off hind foot foaled April 22, 1900. Bred by exhibitors; sire, Lord Early [2722]; dam, Moss Rose [1943]. Exhibitors, Hodgkinson & Tisdale, Beaverton, Ont.

Gipsy Queen [3543], bay, white face, four white feet, foaled Sept. 15, 1900. Bred by exhibitor; sire, Bold Boy (imp.) [1149]; dam, Polly of Avonton [724]. Exhibitor, W. Rae, St. Paul's Station Ont.

BROOD MARE WITH FOAL OF SAME BREED BY HER SIDE.

1st. Royal Princess [2349], brown, stripe, foaled April 16, 1897. Bred by Graham Bros , Claremont, Ont.; sire, The Royal Standard (imp.) [2220]; dam, Corinne [2226]. Exhibitors, Hodgkinson & Tisdale, Beaverton, Ont.
2nd. Queen Bell [2193], bay, white face, 3 legs white, foaled May 18, 1894. Bred by exhibitor; sire Queen's Own (imp) [1708]; dam, Bar Bell (imp.) [1324]. Exhibitor, Robt. Davies, Toronto.
3rd. Nellie Rosewood [3486], bay, white face, 4 white feet, foaled Oct. 1, 1898. Bred by Major & Son, Whitevale, Ont.; sire, Lord Wellington (imp.) [2962] 9977 (6981); dam, Darling (imp.) [2811]. Exhibitor, J. W. Cowie, Markham, Ont.

FOAL OF 1902.

1st. Helen Macqueen [3520], bay, stripe, white feet, foaled May 6, 1902. Bred by exhibitors; sire, Macqueen (imp.) [462]; dam, Royal Princess [2345]. Exhibitors, Hodgkinson & Tisdale, Beaverton, Ontario.
2nd. Scotland's Glory [3322], bay, face, both front feet and nigh hind foot white, foaled May 8th, 1902. Bred by exhibitor; sire Burnbræ [2707]; dam Nellie Rosewood [3486]. Exhibitor, J. W. Cowie, Markham, Ont.
3rd. Belle Troon [3550], bay, blaze, white legs, foaled May 2nd, 1902 Bred by exhibitor; sire, Lyon Macgregor [2308]; dam, Queen Bell [2193]. Exhibitor, Robert Davies, Toronto, Ont.

MARE AND TWO OF HER PROGENY.

1st. Royal Princess [2345]. Exhibitors, Hodgkinson & Tisdale, Beaverton, Ont.

MARE, ANY AGE.

1st. Moss Rose 2nd [2791], bay, four white legs, foaled April 18th, 1894. Bred by R. B. Ogilvie, Madison, Wis.; sire Macqueen (imp.) [462]; dam Lady Marmion [1651]. Exhibitors, Graham Bros., Claremont, Ont.

SINGLE CLYDESDALE, GELDING OR MARE SHOWN TO WAGGON.

1st. King Rose. Exhibitors, Graham Bros., Claremont, Ont.
2nd. Moss Rose 2nd [2791]. Exhibitors, Graham Bros., Claremont, Ont.
3rd. Lucknow. Exhibitor, D. A. Murray, Pennington, Ont.

HEAVY DRAUGHT TEAM GELDINGS OR MARES.

1st. Moss Rose and King Rose. Exhibitors, Graham Bros., Claremont, Ont.

SHIRE HORSE BREEDERS' ASSOCIATION.

ANNUAL MEETING.

The fourteenth annual meeting of this Association convened at Grand's Repository, Toronto, on February 5th, 1903, at 11 a.m., President W. E. Wellington in the chair.

Moved by J. M. Gardhouse, seconded by H. N. Crossley, "That the minutes of the last annual meeting be confirmed." Carried.

PRESIDENT'S ADDRESS.

By W. E. Wellington, Toronto.

I think the Shire industry is on the increase, and we have reason to feel proud of the exhibits made at the last Spring Show, and also at the Industrial Fall Show, but there is one thing that I think we should all make an effort in regard to, and that is to get more members. Our membership is too small for the number of horses imported into this country and the number of owners, and I think there should be some effort made to get every owner—everyone breeding to Shire horses—to subscribe as members. The fee is small, and we would then be able to show an increased balance, and use the money for the benefit of the Shire horse. We should all make a special effort in that direction, and I may say for myself that this coming year I intend doing something in that regard in a district where there has been a good deal of breeding to Shire horses. I think it is only necessary to call the attention of those people to the necessity of interesting themselves in the Association for their own personal good as well as for the benefit of the breed. I would propose that Mr. Wade should give me the names and addresses of the men who have been breeding to our horses, and we will see if a circular cannot be sent to them. Others might do the same.

I am very pleased to note that since the first volume was published there have been 20 mares recorded, four of which were imported, and 25 stallions, of which 24 were imported. Now, I fancy this is the largest importation that we have had in any one year—at least no greater importation has come under my notice—and it is a matter of congratulation. Of course, as far as the financial statement is concerned, it shows a balance on the right side, but not sufficient to satisfy my ambitions.

Another matter I think should engage the attention of Shire breeders, as well as of all other breeders is the obtaining a building suitable for holding horse shows, cattle shows, and live stock sales, etc. There is no question in my mind that the show of cattle held in Guelph could be brought here easily. This is the place it naturally should come to. They have a building there that is very good, I am told, but the hotel accommodation is entirely inadequate. Toronto is well supplied in that respect, and more central in every way, and people can come here and attend cattle sales and horse sales, and yet do considerable business at odd times in the city. I have been informed—and I believe it is correct—that if the different horse associations would take up this matter that private subscriptions could be obtained right in this city for twenty to thirty thousand dollars towards it. If we could interest the City Council, interest the Local Government, and supplement any donations from them with private subscrip-

tions to the amount of $20,000 there is no reason why that building could not be made a fact instead of just being talked about. My idea is, the Breeders' Association should nominate a committee who will take this matter in hand. Let us not pass it by by making reference to it, but let us act. I am in hopes the Breeders' Association will take up this matter, go into it fully, and see what can be done. I see our Mayor is interested in that, and at Ottawa he has advocated taking over the ordnance land, and furnishing the military authorities with different quarters, as at present they have no accommodation, and I think that site would be a splendid one. I am sure it can be accomplished, and we must go about it in a business-like manner.

I thank you for the honor you have conferred upon me, and I can promise you anything I can do towards the Horse Associations—not only of Shire horses, but other breeds—I shall be very glad indeed to give you any efforts in my power.

FINANCIAL STATEMENT.

FOR THE YEAR ENDING DECEMBER 31ST, 1902.

RECEIPTS.		EXPENDITURE.	
1902.			
Jan. 1—To Balance from 1901	$5.75	By Postage, Stationery, and Sundries	$ 9.05
Dec. 31—23 members at $2.00	$46.00	Auditor and Stenographer	3.00
Registration fees to date	$47.50	Commission, 40 peds., 35c $14.00	
		5 trans., 10c 50	
			14.50
		Balance on hand	72 68
	$99.23		$99.23

I hereby certify that I have examined the books and accounts of the Shire Horse Association, and that the above statement is correct and in accordance therewith.

CHAS. F. COMPLIN,
Auditor.

HENRY WADE,
Secretary-Treasurer.

Toronto, Ontario,
January 22nd, 1903.

The report was unanimously adopted.

OFFICERS FOR 1903.

President ..... W. E. WELLINGTON, Toronto.
1st Vice-President ..... JAS. M. GARDHOUSE, Weston.
2nd Vice-President ..... WM. HENDRIE, Jr., Hamilton.

Directors:

WILLIAM WILKIE ..... Toronto.
H. N. CROSSLEY ..... Rosseau.
T. BERRY ..... Hensall.
JAS. HENDERSON ..... Belton.
JOHN CARDHOUSE ..... Highfield.
J. B. HOGATE ..... Sarnia.
W. BAWDEN ..... Exeter.

Delegates to Industrial Exhibition: H. N. CROSSLEY, and JOHN CARDHOUSE.
Delegates to Western Fair: H. WADE, and J. B. HOGATE.
Delegates to Central Exhibition, Ottawa: H. WADE, Toronto; and J. J. ANDERSON, Dominionville.
Delegates to Horse Breeders' Association: JAS. HENDERSON and J. M. CARDHOUSE.
Auditor: C. F. COMPLIN, London.
Secretary-Treasurer: H. WADE, Toronto.

JUDGES AND SHOWS.

Moved by JOHN GARDHOUSE, seconded by JAS. HENDERSON, "That the suggestion for proposed resolution, *re* Dominion Exhibition in Toronto, in 1903, be adopted and sent to the Manager of the Industrial Exhibition, under the Secretary's signature." Carried.

The President and Secretary said they had acted as a committee to purchase a cup, to be presented in the Shire class, at the Toronto Industrial Exhibition; and on motion of J. M. GARDHOUSE, seconded by J. B. HOGATE, it was resolved: "That the cup before us, at a cost of not over $30, be presented by this Association as a Sweepstake to the winner of the champion Shire stallion, at the Spring Stallion Show.

IMPORTATION OF CHEAP AMERICAN HORSES.

A short discussion took place, as to the way Americans were allowed to ship in very inferior horses to this country, such as bronchos, etc., and only be taxed two or three dollars per head, while no matter what sort of animal the Canadians wished to ship into the United States, they had to pay a duty of $30 per head, unless it was registered in an American Herd Book. The meeting was of the opinion that this country was being flooded with these cheap horses from the States, which was very detrimental to the horse breeding industry, so the following resolution was unanimously adopted:

Moved by WILLIAM HENDRIE, Jr., seconded by J. B. HOGATE, "We, the members of the Shire Horse Breeders' Association, in annual meeting assembled at the City of Toronto this 5th day of February, 1903, unanimously resolve that this Association bring to the notice of the Minister of Agriculture, that he may advise the Canadian Government of the following facts:

"1. That low grade and inferior horses have been, and are being imported from foreign countries into Canada at an ad valorem duty of about $3 per head, whereas, the duty upon Canadian-bred horses exported into such countries must pay a duty of $30 per head.

"2. This Association considers it in the interest of the Canadian breeders that the importation of such horses into Canada, be put on the same basis as the exportation of Canadian horses to such foreign countries, that is, such foreign-bred horses should pay not less than $30 per head." Carried unanimously.

The following committee was appointed to convey the opinion of this meeting to the Government: Robert Beith, M.P.; Robert Ness, Howick, Que.; Lt.-Col. McCrae; Wm. Smith and Dr. And. Smith.

The meeting then adjourned.

LIST OF MEMBERS SHIRE HORSE ASSOCIATION, 1903.

Anderson, J. J., Dominionville
Attrill, E. C., Goderich.
Bawden & McDonell, Exeter.
Berry & Geiger, Hensall.
Crossley, H. N., Rosseau.
Dalgety Bros., London.
Drury, F., Charing Cross.
Edwards W. C., & Co., Rockland.
Galbraith Bros., Orangeville.
Gardhouse, C. S., Humber.
Gardhouse, J. M., Weston.
Gardhouse, John, Highfield.
George & Son, H., Crampton.
Graham, T. E. Claremont.
Graham, Robert, Claremont
Hay, George, Lachute, Que
Henderson, James, Belton.
Hendrie, Wm., Jr., Hamilton.
Hodgkinson & Tisdale, Beaverton.
Hodson, F. W., Ottawa.
Hogate, J. B., Sarnia.
Messenger, D. H., Guelph.
Mossop, Wm., St. Marys.
Smith, C. P., Hagarstown, Md., U S.
Snell, E., Galt.
Scott, F. J., Brandon, Man.
Wellington, W. E., Toronto.
Wilkie, William, Toronto.

PRIZE-WINNING SHIRES AT THE TORONTO INDUSTRIAL EXHIBITION, 1902.

Stallion, 4 years old and upwards.

1st. Belshazzar (imp.) [296] (13855), bay, foaled 1891. Bred by R. Tomlinson, Mickle Hay, Eng.; sire, Timon (5394); dam, Ivus (12596). Exhibitors, Bawden & McDonell, Exeter, Ont.

Stallion, 3 years old.

1st. Newnham Duke (imp.) [343] (19893), brown, star, on forehead, near hind stocking white, foaled 1889. Bred by F. W. Dancer, Newnham Grange, Daventry, Eng.; sire, Calthorpe Irving (14555); dam, Blossom (27624). Exhibitor, J. M. Gardhouse, Highfield, Ont

2nd. Milo 2nd (imp.) [358] (19840), black, near hind foot white, foaled 1899. Bred by C. F. Priestly, Hirdrejaig, Wales; sire, Vulcan of Worsley 5th (12691); dam, Malltroth Brunette (22108). Exhibitor, A. C. King, Crediton, Ont.

Stallion, 2 years old.

1st. Bank Statesman (imp.) [352], bay, hind legs white, foaled in 1900. Bred by B. Thomas, Westbury, Eng.; sire, Carltonie (13946); dam, Brown. Exhibitors, Morris & Wellington, Fonthill, Ont.

2nd. Baron Kitchener [356], dark grey, foaled March, 1900. Bred by L. W. Cochrane, Crawfordville, Ind.; sire, Wenona Mark, 4767; dam, Star, 2251. Exhibitors, J. & E. Chinnick, Chatham, Ont.

3rd. April Fool (imp.), [360] (19290) chestnut, blaze, 4 white legs, foaled, 1900. Bred by J. Kirby, Boxworth, Eng.; sire, Alena Champion (14960); dam, Bessy (21298) Exhibitors, Bawden & McDonell, Exeter, Ont

Stallion, 1 year old.

1st. General Favorite (imp) [353] black, off hind leg white, foaled in 1901. Bred by G. L. Morris Thorne, Peterborough, Eng.; sire, Lockinge Harold (16779); dam, Fenland Smiler (23695). Exhibitors, Morris & Wellington, Fonthill, Ont

2nd Coronation (imp.) [351] black, near hind foot white, foaled in 1901. Bred by J. S Cock, Spalding, Eng.; sire, Lockinge Harold [16779]; dam, Blossom (30909). Exhibitors, Morris & Wellington. Fonthill, Ont.

3rd. What's Wanted [345] brown, white face, nigh front foot and off hind foot white, foaled April 23, 1901. Bred by exhibitor; sire, Darnley (imp) [183] (3585); dam, Jen of Highfield [155]. Exhibitor, H. A. Gardhouse, Highfield, Ont.

Stallion, any age.

1st. Newnham Duke (imp.) [343] (19893). Exhibitor, J. M. Gardhouse, Highfield, Ont.

Filly, 3 years old.

1st. Rose [145] bay, one white foot, foaled 1899. Bred by exhibitors; sire, Pride of Hatfield [256]; dam, Queen [65] Exhibitors, Morris & Wellington, Fonthill, Ont.

Filly, 2 years old.

1st. Moulton Marianne (imp.) [164] brown, off hind leg white, foaled in 1900. Bred by E. B. Bettison, Gedney, Holbeach, Eng; sire, Lockinge Harold (16779); dam, Marianne (12893). Exhibitors, Morris & Wellington, Fonthill, Ont.

2nd. Birdie [146] roan, white legs, foaled 1900. Bred by exhibitors; sire, Eahaillon Vulcan [274] dam, Laura [112]. Exhibitors, Morris & Wellington, Fonthill, Ont.

Filly, 1 year old.

1st. Lancashire Lass [158] light bay, white face, white on off fore, and near hind legs, foaled Spring of 1901. Bred by exhibitors; sire, Mars (imp.) [275] (17103); dam, Leta [101]. Exhibitors, Morris & Wellington, Fonthill, Ont.

Brood Mare, with foal of same breed by her side.

1st. Laura [112] bay, stripe, near fore and both hind legs white, foaled May 1, 1896. Bred by Morris & Wellington, Fonthill, Ont.; sire, Pride of Hatfield (imp.) [256]; dam, Daisy [82] Exhibitor, John Gardhouse, Highfield, Ont.

2nd. Leila [131] brown, white legs, foaled 1898. Bred by John Lewis, Wales; sire, Ingomar 2nd (14112); dam, Nadine (17081). Exhibitors, Morris & Wellington, Fonthill, Ont.

3rd. Nelly Bay [122], bay, foaled May 28, 1895. Bred by F. Drury, Charing Cross, Ont.; sire, Orphan Boy (imp.) [178]; dam, Normoor Nell (imp.) [58]. Exhibitor, S. C. Wood, Hensall, Ont.

FOAL OF 1902.

1st. Bella Marr [166], brown, star, hind feet white, foaled spring 1902. Bred by exhibitors; sire, Mars (imp.) [275]; dam, Leila [131]. Exhibitors, Morris & Wellington, Fonthill, Ont.

2nd. Blaisdon Boy [368], bay, face and fore legs white, foaled April 28, 1902. Bred by exhibitor; sire, Blaisdon William (imp.) [302] (16529); dam, Nelly Bay [122]. Exhibitor, S. C. Wood, Hensall, Ont.

3rd. Pride of Highfield [357], bay, star, hind feet white, foaled May 20, 1902. Bred by exhibitor; sire, Pride of Morning [304]; dam, Laura [112]. Exhibitor, John Gardhouse, Highfield, Ont.

MARE, WITH TWO OF HER PROGENY.

1st. Nelly Bay [122], bay, foaled May 23, 1895 Bred by F. Drury, Charing Cross, Ont.; sire, Orphan Boy (imp.) [178]; dam, Normoor Nell (imp.) [58]. Exhibitor, S C. Wood, Hensall, Ont.

MARE, ANY AGE.

1st. Laura [112]. Exhibitor, John Gardhouse, Highfield, Ont.

HARNESS, HUNTER AND SADDLE HORSE SOCIETY.

Following a dinner given by the President, Mr. Walter Harland Smith, to upwards of a hundred gentlemen interested in the development of the horse industry of the country, the third annual meeting of the Harness, Hunter and Saddle Horse Society of Canada was held on Monday, February 2, 1903, and was very generally attended by the members, who are as follows:

Barron, Geo., 728 Yonge St.
Beardmore, G. W., 136 Beverley St.
Beck, Adam, London.
Bond, Dr. J. P., 502 Spadina Ave.
Bond, Robert, 19 Sheppard St.
Bristol, Ed., 103 Bay Street.
Buckle, W., 219 Major St.
Colville, W. H., 25 Front St., East.
Cox, E S., 8 Wellesley Place.
Crossley, H. N., 91 Woodlawn Ave.
Crow, T. A., 619 Yonge St.
Crutchley, T. O, Weston.
Dalgety, Bros., London.
Davis, R., jr., Todmorden.
Dinnis, A. Simcoe St.,
Dixon, J. J., 42 King St., West.
Doane, Fred, 621 Yonge St
Doane, J. H., 621 Yonge St.
Donley, W. J., 71 Richmond, West.
Dunn, T., Mimico.
Fuller, S. B., Woodstock.
Gilmour, J. G., M.D., Central Prison.
Hartsborne, H., 72 King St., East.
Hillock, A. F., Brampton.
Hodgson, F., V.S., 26 Duchess St.
Hodson, F. W., Ottawa.
Lawrence, W. A., Milton.
Merry, W. T., 36 Temperance St.
McBride, S., 249 Bathurst St.
Murray, J., 621 Yonge St.
Oille, J. L., 599 Yonge St.
O'Neill, D., London.
O'Neill, J. R. Cobourg.
Osborne, Mail Building.
Peters, Dr. G. A., 102 College St.
Pepper, George, 253 Huron St.
Piper, E, 18 Bernard Ave.
Smith, Dr. A., Ontario Vet. Coll.
Smith, Dr. D. K., " "
Robinson, H. M., Rice, Lewis & Co.
Rolston, F., c-o John McDonald Co.
Scott, W. N., Milton
Smith, W. A., Downsville,
Smith, W. H., "Grands," Toronto.
Stewart, Dr., Ontario Veterinary Coll.
Strong, Milton, Newtonbrook.
Taylor, T., Copeland Brewing Co.
Walsh, Wm., Dominion Ex. Col.
Wellington, W. E., 49 Wellington, W.
Young, W. A., M.D., 145 College St.

The President occupied the chair. In a few words he addressed the meeting expressing his pleasure at seeing such a large attendance, thanking the officers for the loyal support he had received during the year, and inviting those present to settle down to business.

The Secretary read the minutes of the previous meeting, after which his report and that of the Treasurer were read and adopted, the latter showing a balance on hand of $23.

FINANCIAL STATEMENT.

FOR THE YEAR ENDING DECEMBER 31st, 1902.

As Treasurer of this Association I must confess that I have been a little remiss in my duties, as I lost the membership receipt book which we used at the annual meeting and afterwards, so that I am not perfectly sure whether the names of the gentlemen given below have all paid their subscription for 1902, or whether there are gentlemen who have paid and their names are not in this list. If the names of any gentlemen present do not appear on this list who paid their subscription for last year I would be pleased if they would kindly let me know.

RECEIPTS.

W. H. Smith, Toronto	$ 2 00
Ald. O. B. Sheppard, Toronto	2 00
Thos. Crowe, Toronto	2 00
W. C. Browne, Meadowvale	2 00
T. H. McCartney, Thamesford	2 00
Jas. Murray, Toronto	2 00
W. T. Merry, Toronto	2 00
Adam Beck, London	2 00
Dr. And. Smith, Toronto	2 00
E. W. Cox, Toronto	2 00
Geo. Pepper, Toronto	2 00
W. Hendrie, jr., Hamilton	2 00
Dr. Young, Toronto	2 00
J. J. Dickson, Toronto	2 00
F. W. Hodson, Ottawa	2 00
Geo. E. Case, Toronto	2 00
H. N. Crossley, Toronto	2 00
W. D. Graham, Toronto	2 00
W. Bailey, Toronto	2 00
S. B. Fuller, Woodstock	2 00
	$ 40 00

EXPENDITURE.

By balance due treasurer	$ 12 00
Auditor and Stenographer	3 00
Mail Job, Post cards	1 25
Cash on hand	23 75
	$ 40 00

(Subject to correction),

HENRY WADE, Treasurer.

The Secretary reported that the four prizes donated on behalf of the Society to the Canadian Horse Show, by Messrs. Harland Smith, Adam Beck, George Pepper, and T. A. Crow, the same to be won twice by the same owner before becoming his personal property, had been won as follows:

Champion Harness Horse—British Lion, black g., 15.3½, 7 years, owned by Crow & Murray, Toronto.

Champion Saddle Horse, Toronto,—Duchess, roan mare, 15.1½, 6 years, owned by George Pepper, Toronto.

Champion Hunter—Pearl, b. m., 16, aged, owned by George Pepper, Toronto.

Champion Roadster—Nellie Goldleaf, br. m., 15.3, 9 years, owned by M. E. Mitchell, Brampton.

The reports were adopted without amendment.

OFFICERS FOR 1903.

President—W. HARLAND SMITH, Toronto, re-elected.

First Vice-President—ALD. O. B. SHEPPARD, Toronto, re-elected.

Second Vice-President—T. A. CROW, Toronto, re-elected.

Directors—W. E. WELLINGTON, Toronto; J. J. DIXON, Toronto; THOMAS GRAHAM, Claremont; H. N. CROSSLEY, Rosseau; ROBT. BOND, Toronto; S. B. FULLER, Woodstock; GEORGE PEPPER, Toronto; W. T. MERRY, Toronto; THOS. HODGSON, Toronto; ADAM BECK, London.

Secretary—H. J. P. GOOD, re-elected.

Treasurer—HENRY WADE, re-elected.

Representatives on the Board of the Canadian Horse Breeders' Association—W. E. WELLINGTON, O. B. SHEPPARD.

Representatives on the Industrial Exhibition Association of Toronto—W. HARLAND SMITH, W. T. MERRY.

DOMINION EXHIBITION.

On motion of the President, seconded by Mr. Merry, the following resolution, favoring a Dominion Exhibition in Toronto in the year 1903, was carried : "The Harness, Hunter and Saddle Horse Society of Canada notes with satisfaction the marked progress made during the past year by the Industrial Exhibition Association of Toronto, as regards new buildings, improved accommodation for exhibitors, and the character of the exhibition generally. We also wish to place upon record our appreciation of the public spirit and liberality of the citizens of Toronto in providing funds for the erection of a new butter, cheese and dairy building, the new art gallery, the new manufacturer's building and women's building, and trust that no time will be lost by the city council in pushing forward to completion the new manufacturer's building, women's building, and other contemplated improvements. We cordially approve of the proposed Dominion Exhibition to be held at Toronto in 1903, and pledge our support and assistance to the Board of Directors of the Industrial Exhibition Association in helping them to carry such an exhibition to a successful issue, and also to aid them in securing the recognition of the Dominion Government, and the procuring of sufficient grants from the Dominion and Local Governments to enable them to make the proposed exhibition a complete success."

Mr. George Pepper moved, Mr. W. Buckles seconded, and it was carried, that the Society give a $50 cup for the best harness horse at the Toronto Industrial Exhibition in 1903.

Mr. T. A. Crow said he would give $50 for the best saddle horse at the Toronto Industrial Exhibition in 1903.

Ald. O. B. Sheppard said he would give a solid silver cup for the best in a class at the Toronto Industrial Exhibition of 1903, to be decided upon by a committee composed of the President, the Second Vice-president and himself, Mr. Sheppard being First Vice-president.

Votes of thanks to the president for his splendid entertainment of the Society at dinner; to the secretary, Mr. H. J. P. Good, and to the honorary secretary-treasurer, Mr. Henry Wade, brought the proceedings to a conclusion.

H. J. P. Good,
Secretary.

CANADIAN HORSE BREEDERS' ASSOCIATION.

ANNUAL MEETING

The ninth annual meeting of the Canadian Horse Breeders' Association was held at Grand's Repository, Toronto, at 8 p.m., February 5th, 1903, the President, Dr. A. Smith, in the chair.

The minutes of the last annual meeting were taken as read.

PRESIDENT'S REMARKS.

By Dr. Andrew Smith.

The Horse Show in the spring was a decided success, and I think we put to our credit somewhere in the neighborhood of fifteen hundred dollars. I believe I also voice the opinion of members of this Association when I say that the grant of $1,000 to the Clydesdale and Shire Associations for the purpose of holding a Show, has been an excellent one, if you look, for instance, to the show that has just taken place. I believe the show of Clydesdales and Shires has not been excelled before, and at the same time we anticipate that a number of sales will take place. I am sorry to state, as I said last night, there have been no applicants for the money that was voted two years ago for any club that would give so much money to buy a horse to travel in their district. I am sorry to say that has not been taken up. I think that should receive the consideration of the Association and horse breeders of Ontario.

I may also say we are indebted to Mr. Walter Harland Smith for what he has done in placing at our disposal his premises, which I think have done exceedingly well for the Horse Show. This afternoon there were a large number of horses shown and a great number of spectators there. There were, no doubt, more people there than the management anticipated, or they might have had a few seats raised in order that the people could see the show to better advantage.

I will not trouble you with any other remarks further than saying I believe the Canadian Horse Breeders' Association is doing a good work in that important branch of Agriculture, namely, the horse industry.

REPORT OF SECRETARY-TREASURER.

The year 1902 was a fairly good year for horses, and as a result the horse-breeding industry can be reasonably described as in a prosperous condition. It could be wished, perhaps, that there was more breeding to type, but as the various societies are working in that direction we can hopefully look forward to considerable improvement in the very near future of all classes. Judging from the better quality of horses that one sees, both on the streets and in the sales and show rings, it would seem that farmers are at last beginning to realize the fact that breeding the best is the only profitable policy, and that a runt or skate costs nearly as much to breed and quite as much to keep as a horse of quality and consequently of value. Your secretary has been present at a number of sales during the year, and is pleased to report a generally brisk demand for all classes possessing character at prices that had not been reached in previous years.

Poor animals, however, are cheaper than ever; in fact there is practically no market for them. On the other hand the average price of horses of quality continues to rise.

I am pleased to report that not only was the last Spring Show held in the Armouries a greater success than ever, but that the horses at the Industrial Exhibition of 1902 outclassed, both in number and quality, anything ever seen before. In short, both the Spring and Industrial Exhibition Shows were record ones in excellence and size of entry. I am sure with me you will be pleased to hear that the Industrial Exhibition Association has in contemplation not only the erection of more stables, but also of a large building in which judging can be done under cover. To that end weather will not prevent progress in the judging, which will also be possible on schedule time, no matter what the state of things may be in the open air. It is also possible that the building will be available for other purposes, such, for instance, as cattle and horse shows. A structure of such description is certainly badly needed in Toronto, and it is to be hoped that the Committee of the City Council, with Ald. Sheppard at its head, having the matter in hand, will succeed in accomplishing something in the desired direction.

It affords me much pleasure to be able to report the prosperity of all the societies represented in this Association. Every one at the annual meetings held this week has been able to boast of increased membership and increased revenue, with the result that each and every one feels in a position to subscribe more liberally to the year's shows. Particularly in this line is the youngest organization of all—the Harness, Hunter and Saddle Horse Society—which, through the generosity of its president, Mr. Walter Harland Smith, entertained many of your members and of the Hunt Club at dinner on Monday, when a number of instructive speeches were made and the objects of the Society so well brought out that at the subsequent annual meeting the secretary was able to record a roll of members two or three times as numerous as before. Although young in years the society, or its individual members, has already given several hundred dollars worth of prizes to the Spring and Industrial Exhibition Shows. I am sure you will join with me in wishing continued prosperity both to it and to all the other horse societies.

In accordance with a premonition at the annual meeting of this association, the Executive, reluctantly on the part of several members, agreed that a separate show should be held this week of Clydesdale and Shire stallions. Breeders all over the Province expressed the opinion that April or May was too late to exhibit stallions, which are then either preparing for or at service for the season, and so the show was arranged, which I am pleased to say has been an unqualified success, the exhibits being both numerous and exceptionally high quality. In fact, several animals were especially imported from Scotland for the show. As the Province gives $2,000 for show purposes—of course to encourage breeding—your executive felt justified in subscribing $1,000 towards the prizes of the stallion exhibition.

It was suggested that all classes of stallions should be exhibited, and even full-pedigreed mares, but as the accommodation was necessarily limited, and for other reasons it was deemed advisable at least for this year, to confine the show to Clydesdale and Shire stallions.

In concluding, it appears to me that this report would be incomplete without expressing the gratitude of the Association to the individuals who subscribe prizes for different classes of horses, and to the societies that do the same, and particularly to Mr. Walter Harland Smith for his kindness in devoting his entire premises this week at considerable financial and business sacrifice for the stallion show, for the banquet on Monday, and for the various business meetings. I would suggest that a formal resolution be passed to Mr. Smith, engrossed and duly signed, in recognition of his enterprise, kindly consideration and generosity.

TREASURER'S STATEMENT OF CANADIAN HORSE SHOW, 1902.

RECEIPTS.			EXPENDITURES.		
To	Grant from Horse Breeders' Association	$ 2,000 00	By	Prizes	$ 4,715 00
"	Sundry subscriptions and other grants	2,205 00	"	Military grant	200 00
"	Sale of boxes	2,710 00	"	Industrial Exhibition Prize	100 00
"	Entry fees	1,733 00	"	Expenses of show	4,750 37
"	Proportion of general receipts	4,229 30	"	Surplus to Horse Breeders	$1,520 96
			"	Surplus to Toronto Hunt	$1,520 97
					3,041 93
		$ 12,907 30			$ 12,907 30

FINANCIAL STATEMENT OF CANADIAN HORSE BREEDERS' ASSOCIATION.

FOR THE YEAR ENDING DEC. 31ST, 1902.

RECEIPTS.			EXPENDITURE.		
To	Balance, June, 1901	$ 2,568 10	By	Prizes Industrial Exhibition	$ 250 00
"	Government grant	2,000 00	"	Auditor and stenographer	21 50
"	Int. on deposits	122 07	"	Stationery, postage and sundries	92 69
"	80 members at $1.00	80 00	"	Grant to Canadian Horse Show	2,000 00
"	Share on profits of Horse Show	1,520 96	"	Wages of man with stock car	50 00
			"	Expenses of banquet	152 00
			"	Expenses of delegation to Ottawa 1901 and 1902	44 00
			"	Balance on hand	4,680 44
		$ 7,291 13			$ 7,291 13

I hereby certify that I have examined the books of the Horse Breeders' Association, and that the foregoing statement is correct and in accordance therewith.

CHAS. F. COMPLIN, Auditor
HENRY WADE, Secretary-Treasurer.

Toronto, Ont., January 22nd, 1903.

OFFICERS FOR 1903.

President - - - - - - - Dr. A. SMITH, Toronto.
First Vice-President - - - - - - H. N. CROSSLEY, Rosseau.
Second Vice-President - - - - - THOMAS GRAHAM, Claremont.

Directors:

Thoroughbred Association: Dr. A. SMITH, Toronto, and WM. HENDRIE, JR., Hamilton.

Harness, Hunter and Carriage Society of Canada: W. E. WELLINGTON, Toronto, and ALD. O. B. SHEPPARD, Toronto.

Hackney Horse Society: THOMAS GRAHAM, Claremont, and H. N. CROSSLEY, Rosseau.

Trotting and Pacing Horse Association: GEO. PEPPER, Toronto, and SAMUEL MCBRIDE, Toronto.

Clydesdale Horse Association: PETER CHRISTIE, Manchester, and FRED. RICHARDSON, Columbus.

Shire Horse Association: JAMES HENDERSON, Belton, and J. M. GARDHOUSE, Weston.

Draught Horse Association: THOMAS MCMILLAN, Constance, and JAMES MITCHELL, Goderich.

Canadian Pony Society: H. M. ROBINSON, Toronto, and E. C. H. TISDALE, Beaverton.

Moved by Col. MCCRAE, seconded by Col. MCGILLIVRAY, "That the above representatives from the different associations constitute the directorate of this association." Carried.

Delegates to Industrial Exhibition: HENRY WADE and THOMAS GRAHAM.
Delegates to Western Fair: O. SORBY, Guelph, and COL. MCEWEN, Byron.
Delegates to Ottawa: GEO. PEPPER, and COL. MCGILLIVRAY, Uxbridge.
Secretary-Treasurer: HENRY WADE, Toronto.

LIST OF MEMBERS FOR 1903.

Archibald, C. A., Truro, N.S.
Attrill, E. C., Goderich.
Barbour, M. A. (Beaconsville Ave.), Toronto.
Bawden & McDonnell, Exeter.
Beck, Adam, M.P., London.
Beith, Robt., M.P., Bowmanville.
Biggins, W. J., Clinton.
Bligh & Son, E., Langenbury, Assa.
Boeckh, Chas. (York St), Toronto.
Bond, Robt., Toronto.
Bonnycastle & Son, F., Campbellford.
Bright, Jno., Myrtle.
Campbell, F. A , V.S. (Bay St.), Toronto.
Campbell, E T. (41 Major St.), Toronto.
Canfield, Jas., Woodstock.
Cargill & Son, H., Cargill.
Carstairs, D., Bomanton.
Christie, P., Manchester.
Cox, E. W. (162 Isabella St.), Toronto.
Crossley, H. N., Rosseau.
Dalgety Bros., London.
Davies, Geo., Todmorden.
Davies, Robt. (Toronto St), Toronto.
Davidson, John, Ashburn.
Davidson, J L., Balsam.
Dietrich, J. C., Galt.
Edwards & Co , W. C , Rockland.
Elliott, C., V.S., St. Catharines.
Fuller, Shelton, Woodstock.
Gardhouse, John, Highfield.
Gardhouse, J. M., Weston.
Garrett, Bruff (Sovereign Bank), Toronto.
Gibson, R , Delaware.
Good, H. J. P. (Ann St.); Toronto.
Graham, Thomas, Claremont.
Henderson, James, Belton.
Hendrie, Wm., Jr., Hamilton.
Hodson, F. W., Ottawa.
Houston, Stewart, (Massey Hall) Toronto.
Irving, T., Winchester.
Isaac, Geo., Bomanton.
Meredith, L , London.
Miller & Sons, Jno., Brougham.
Miller, Robt., Stouffville.
Mitchell, Jas., Goderich.
Moore, Geo., Waterloo.
McBride, S., (Bathurst St.) Toronto.
McCrae, Lieut.-Col. D., Guelph.
McEwen, Lieut.-Col. R., Byron.
McGillivray, Lieut.-Col. John A., Uxbridge.
McMillan, Thos., Strafford.
Pepper, Geo , (Huron St.) Toronto.
Quinn, J F., Brampton.
Rolston, T., (King St. W.) Toronto.
Richardson, F , Columbus.
Robertson, J. Ross, Toronto.
Robertson, Major, Toronto
Robinson, H. M., Toronto (Rice Lewis Co)
Robson, Capt. T. E., Ilderton.
Russell, H., Weston.
Sheppard, Ald. O. B., Toronto.
Smith, Andrew, M.R.C.V.S., Toronto
Smith, Bertram, Toronto (Grand's Repository).
Smith, W. Harland, Toronto.
Smith, Wm , Columbus.
Sorby, O., Guelph
Tisdale, E. C. H., Beaverton.
Turner, John A., Calgary, Alta.
Stark, W. J., Stouffville.
Watt, J. & W. B., Salem.
Wellington, W. E., (Wellington St.) Toronto.
Wilkie, Wm., Toronto (Hendrie Cartage Co.)

RESOLUTIONS.

It was resolved: "That the sum of $250 be given from the funds of this Associations to the prize list of the Toronto Industrial Exhibition, and it be left in the hands of the Directors to divide it as they see fit."

"That we grant $1,000 for next year's Heavy Horse Show if the management wish to continue it, and that we confirm the grant that has been given this year." Carried.

"That the matter of the grant to the Canadian Spring Horse Show be left to the Board of Directors of this Association." Carried.

"That the usual sum of $50 be granted by this Association towards paying wages of a man in charge of live-stock car referred to in the report of the Secretary-Treasurer." Carried.

A resolution, noting with satisfaction the marked progress made during the past year by the Industrial Exhibition Association of Toronto and approving of a Dominion Exhibition to be held in Toronto in 1903, was submitted to the meeting and unanimously carried.

A letter was read from W. J. Gibson, lawyer, New York, asking for the co-operation of this Association in having the decision of the U.S. General Appraiser reversed in regard to live stock imported into that country.

Moved by Col. McCrae seconded by Geo. Pepper, "That the letter from Mr. Gibson be answered, and the Secretary be instructed to state that the Canadian Horse Breeders' Association does not wish to take any action." Carried.

NEW BUSINESS.

A discussion took place as to the best method of preventing cheap horses from the Western States flooding the country.

Col. McGillivray said that these inferior ponies could be bought on the prairies for $5 or $10 apiece, and they were brought to every centre in the Province, and that no other horses of equal value can go from this country into the States without a tax of $30 being imposed. He therefore thought there ought to be something like equal duties, and something like similar duties in this respect.

ROBERT BEITH, M.P.: I think all horses coming here should be registered in our books before they are allowed into Canada duty free, the same as we require to do before we can take a pure-bred horse into the States; they should require to get a customs certificate from our Secretary here to bring them in, the same as we require to get our horses in there. I think if that restriction were imposed a great many horses coming into this country in the Western part, could not get in at all.

COL. MCCRAE: In addition to what Mr. Beith has said, I wish to state that last year Mr. Beith and I were appointed a committee to go down to Ottawa and interview the Government upon this matter, or a very similiar matter—that is, bronchos. We saw the Minister of Customs and found there was a difficulty in making any laws at that time. We also saw Mr. Fielding, and they all expressed themselves as exceedingly willing to meet the wishes of the breeders of this country, and the question arose how could that best be done? I think Mr. Beith suggested there might be a minimum value put upon horses coming in, of $150. We said if a horse were not worth $150, we did not want to import that horse into Canada. And I think you will find since our interview the importation of bronchos has not been to any large extent, and that was so much good done. Now any restriction we ask for must be put against the world, it must be put against England as well as the United States. Then I would ask, is it advisable to put this restriction against England?

Mr. William Hendrie, jr., said we just wished to ask the Government to do what the United States did to us, and that was to make them pay a duty of $30 on every horse.

Mr. Beith said they were a little late last year in making their request as the matter could not be brought up at Session.

Col. McCrae concurred with Mr. Beith's remarks in regard to horses coming from the United States being required to be registered in our records.

Mr. Jas. Henderson said he had just come from the West, and while he was up there bronchos were going into that Canadian west by the hundreds. He stated Percheron horses were also going in there, simply with no duty whatever; at least, the duty charged amounted to practically nothing, and this was killing the trade of the Ontario breeders and was very unfair to them.

The following resolution was then adopted:

"We the members of the Canadian Horse Breeders' Association in annual meeting assembled at the City of Toronto this 5th day of February, 1903 unanimously resolved that this Association bring to the notice of the Minister of Agriculture, that he may advise the Canadian Government of the following facts:—

1. That low grade and inferior horses have been, and are being imported from foreign countries into Canada at an ad valorem duty of about $3 per head, whereas, the duty upon Canadian bred horses exported into such countries must pay a duty of $30 per head.

2. This Association considers it in the interest of the Canadian breeders that the importation of such horses into Canada be put on the same basis as the exportation of Canadian horses to such foreign countries; that is, such foreign bred horses coming into Canada should pay not less than $30 per head." Carried.

The following committee was appointed to convey the opinion of this meeting to the Government: Robert Beith. M.P.; Robert Ness, Howick, Que.; Lt.-Col. McCrae, Wm. Smith, Ex.-M.P., and Dr. Andrew Smith.

Col. McCrae said at one time it was the intention of the management of the show to have educational classes during this week, but when they found the building was not large enough to permit of such the scheme had to be abandoned. He spoke of the classes in judging at the Agricultural College at Guelph in March, and thought it would be a good thing if this Association would make a small grant towards paying the expenses of getting a good judge on heavy horses and a good one on light horses. They could perhaps get one from this side and one from the other side, and it would greatly assist the educational work being carried on there. They had capital men to give talks on sheep, swine and cattle, but they had been lamentably lacking in horse talks at the Farmers' Institute Meetings.

Moved by Lt.-Col. McCrae, seconded by Wm. Hendrie, jr., "That a sum not exceeding $100 be placed to the disposal of a Special Committee, consisting of Dr. A Smith, Lt.-Col. McGillivray, G. C. Creelman, and the mover, to arrange for lectures at the stock judging classes at the Agricultural College, Guelph, in March." Carried.

PROPOSED BUILDING SUITABLE FOR LIVE STOCK SHOWS AND SALES, ETC.

Geo. Pepper stated that some three years ago he had plans prepared by Mr. Darling, the architect, for an arena building suitable for fat stock shows, hockey matches, horse shows, or any large gathering that it might be required for. Since that time Mr. Good, through the press, had continually kept the matter alive, and today, he was happy to say, everybody was beginning to see the urgent need of such a building in this the most prosperous city in the Dominion, and the capital of the most prosperous Province. And he now thought it was time for the Horse Breeders' Association to make a move so that they could retain the control and position they now hold. There was now nearly $5,000 on hand, and during the past eight years the Hunt Club has taken between $6,000 and $7,000 as their share of the profits of our horse shows. The secretaries have been paid $4,000 in salaries, and the cost of fitting up and renting the Armouries cost no less a sum than $14,000, thus showing that had a building been erected by the Association they would have paid off or paid on account in the past eight years no less than $30,000, or about one-half the cost of a building, and horse shows here are only in their infancy.

He thought this was too good a thing for horse breeders and horse interests of this country to pass over to the Hunt Club or any other Society or Company that might be formed. The City Council were ready to help and the Government would also assist.

Mr. Pepper said further, that during the past eight years from $15,000 to $17,000 had been paid out for seating capacity, which would not require to be paid if we had a building of our own. He had interviewed a number of members of the Government and they are anxious to help us. Mr. John Ross Robertson has consented to act on a committee for the purpose of obtaining a charter for the purpose of having a building to hold horse shows, etc., in. He might say, he

would undertake, within thirty days, to have over $20,000 stock subscribed, which would be about one-quarter of the entire amount, providing the city or Government supply us with the land suitable for our purpose.

It was then moved by Geo. Pepper, seconded by H. J. P. Good and carried, "That this Association apply for a charter as the Ontario Horse Breeder's and Show Association, with a capital stock of $100,000, and that the following gentlemen be a committee to obtain the charter and to act as they deem prudent in disposing of the stock and arranging for the proposed building for future horse shows." Committee appointed: Dr. And. Smith, W. E. Wellington, John A McGillivray, Ald. O. B. Sheppard, W. H. Smith, H. M. Robinson, Thos. Graham, Lt.-Col. McCrae, Geo. Beardmore, H. Wade, H. J. P. Good, Geo. Pepper, Robt. Beith, John Ross Robertson, and Wm. Hendrie, Jr.

In supporting the motion Mr. Good said he had advocated this scheme for the past twenty-years, and he thought Mr. Pepper hit upon the right track, and they were now arriving at some solution of the problem. Such a building as proposed would not only be a profit to the city but a profit to the Province. It would give facilities for holding meetings and conventions and giving entertainments such as are not in any part at present, and there was no doubt in his mind but a building of that sort would be a success from the start. Since the Arena in Montreal has been erected there was no more room for scepticism. The Arena had taken in as much by its hockey matches, etc., as would go a long way towards paying for it. For instance, the receipts in three days were $15,000, of which $7,500 went to the arena. Therefore, he thought it was not a prospect of success merely, but of success from the start. The city of Toronto was the centre of the live stock interests of Canada, and was the proper place for such a building. Toronto was undoubtedly the centre of trade of the Province, and he hoped the scheme would have the unanimous endorsation of the Horse Breeders' Association.

Lt.-Col. McGillivray: I have very much pleasure in supporting the motion put by Mr. Pepper and so well endorsed by Mr. Good.

Mr. W. E. Wellington said this scheme had come to such a point that some definite action should be taken as it was plain to see there was not adequate accommodation for holding large shows. He was sure the stallion show could be more than doubled if they had the accommodation spoken of, and thought it was a move in the right direction.

Ald. O. B Sheppard: This is a matter I have taken some little interest in and brought before the City Council, and I am satisfied we would receive the liberal support of the City Council in this matter. It is a matter that needs little discussion as the want of the building is a proper one, and I. think we have enough enterprise to bring it to a success. As regards the outcome financially I do not think there is the slightest doubt; it would not only pay interest to the stockholders but I think they would have a sinking fund. I shall do all I can, both in the Council and outside, to try and make it a success. It has my hearty approval, and I only hope this Association will carry it through The matter of a site has been discussed and we thought probably at the foot of Yonge Street could be utilized—that is where they have baseball. If that could be utilized, I think we could probably get that from the city of Toronto. It is close to the railroad and very close to the wharves and it is very close to the centre of the city; and if that can be utilized I am satisfied satisfactory arrangements can be made with the city for the use of that ground. I feel satisfied it would be taken up in the spirit we are originating it here and receive the support of the city of Toronto. (Applause)

Mr. Hendrie, jr., said there was not the slightest doubt in his mind but it would pay and he gave the resolution his hearty support.

Lt.-Col. McCrae said this was quite a surprise to him, and he did not wish to commit himself at once about it. He said he would be exceedingly glad to see facilities for holding stock shows in this city, and he could not find any fault with the resolution. The investment in Guelph was an exceedingly paying one, as they never had such a market in Guelph as they have had since the Fat Stock Show building was put up.

The meeting then adjourned.

DIRECTORS' MEETING.

At the adjournment of the annual meeting the Directors convened and appointed a President and two Vice-Presidents, whose names will be found in the list of officers.

The Secretary read a letter from Mr. Stewart Houston, quoting the terms the combined show was held on two years ago.

After considerable discussion as to the amount to be voted to the Canadian Spring Horse Show, on motion of W. E. Wellington, seconded by Wm. Hendrie, jr., it was resolved: "That this Association grant not over $2,000, but make a specific grant of $750 to the Military, and $1,000 towards the Spring Horse Show, but the total expense must not exceed $2,000." Carried.

Mr. Wm. Hendrie suggested that at no committee meeting shall this Association be represented with less than a similar number than the Hunt Club and Military combined.

Large Committee: Moved by Geo. Pepper, seconded by Samuel McBride, "That the following gentlemen be appointed representatives from this Association on the Joint Horse Show Board": Dr. A. Smith, Ald. O. B. Sheppard, W. E. Wellington, Thos. Graham, H. N. Crossley, H. M. Robinson, Wm. Hendrie, jr., Geo. Pepper, J. M. Gardhouse, Samuel McBride.

Small Committee: The following committee was chosen as a special committee to arrange for the Horse Show in conjunction with the Hunt Club and Military: Dr. A. Smith, W. E. Wellington, Ald. O. B. Sheppard, H. N. Crossley, Wm. Hendrie, Geo. Pepper.

Moved by Geo. Pepper, seconded by Ald. O. B. Sheppard, "That the other Society be asked to grant us—in accordance with the amount of money we are giving—six representatives on that committee." Carried.

The meeting then adjourned.

CANADIAN SPRING STALLION SHOW.

The formal opening of the Canadian Spring Stallion Show took place in Grand's Repository, Toronto, February 4th, 1903, at 7.30 p.m.

CHAIRMAN'S ADDRESS.

By W. E. Wellington, Toronto.

If you will give me your attention for a few minutes, I shall state the objects of the meeting to-night, or rather introduce to you the Minister of Agriculture, Mr. Dryden; whom I am sure, you will all welcome here to-night. We all know the interest he takes in every department of agriculture, and for that reason alone, outside the honourable position he occupies, we are very glad

indeed to have him here with us this evening. Of course we can hardly expect a very long address in a cold room like this, but we wish simply to say that the directors of the Horse Show are more than pleased with the promise given us this afternoon, that our venture will be one of success. It is of course following out the lines of the old Spring Horse Show held in Toronto a few years ago, which afterwards became merged into the Canadian Spring Horse Show, and which you all know about without my taking up your time in going into details. But the heavy horse men, or owners of heavy stallions, came to the conclusion that some time they must have a distinct show. While the other show was successful from a monetary point of view, successful in the way of bringing out the society of Toronto and interesting them in horses, still, it came at a wrong time, as far as the owners of stallions were concerned, and it was felt advisable that we might inaugurate a fair on the lines which we have now laid out, and which was so successfully carried out this afternoon. I, for myself, was more than pleased with the attendance. I must confess, along with the other Directors, we felt that there were elements of doubt about our succeeding, especially in view of the fact of the larger show coming on later; but I now feel that we have every reason to be encouraged, and I believe that this show which we are inaugurating to-day, and which Mr. Dryden will formally open to-night, is only the beginning of what will be very successful shows and very profitable shows for owners of stallions in the heavy draught classes. It may be desirable later to add the females. But we wanted to go slowly at first, and we are hopeful the success we are having will bring about some desirable things we wish to ask for.

In the first place, while we are very much pleased to have such quarters as we have here—private quarters given to us by Mr. Walter Harland Smith—still we all feel, and I believe I speak for the agricultural interests of all Canada, that we need here, in Toronto, something that will be a permanent spot; a permanent home for not only the holding of Horse Shows, but the holding of Cattle Shows, and the holding of large sales in the live stock interests of the farmers of Canada. I speak of it that we desire it here, because I believe that Toronto, being so centrally situated, having hotel accommodation necessary for all classes, that it is the best place for such a building to be erected. We all know that the Ontario Government has done very much in the dairying interests and other interests that pertain to the interests of the farmer, but we feel the horse interest is one that should engage the attention of the Government. We are hopeful, when they see the efforts that we as breeders are making, that they will come to our assistance and give us some help in the way of providing such a building. My own idea is that we should locate here in Toronto a building similar to the Madison Square Garden Building, where we can show under cover, properly heated: and I believe if such a venture were launched the Ontario Government would help, and I believe the city of Toronto would help us. I have talked to a great many in the city, and they gave us much to hope for in that direction. There must be concentrated interest, and then you will interest such people as I refer to are before me to-night—men who are interested in the breeding of horses. I hope from this affair there will spring something that shall bring about what I have designated as a want, and a great want, for the farming community of Canada.

There is another matter that to my mind should engage the attention of those who legislate for us, and that is in some measure protecting the best class of horses. I think one of the great troubles that we face in the agricultural districts, is that too many men will breed to an inferior stock of horses—they look at the first price too much—and unless that class of horse is eradicated, we cannot hope to bring the breeding of heavy class horses to the perfection we

should. I see no reason why we should not breed as good, or nearly as good, horses as they do in Great Britain; and we would not have to depend on the English people so much for imported horses as we do now, provided measures were taken to protect those who put their money into desirable horses, to such an extent that these "cull" or "weed" horses be eradicated. The only way I see is to have a tax levied on all stallions, good, bad, and indifferent; then those who have inferior horses would not like to pay the tax, but only those who had the good ones would do this, and the result would be the poorer horses would be turned into working horses instead of travelling the country. These are measures that will bear argument, because a great many will say they must do as they like in such cases. Well, so they will to a certain extent, but if they are not willing to breed to good horses, they are at liberty not to breed at all, and I believe that would be far better than bringing inferior horses into the country.

Another thing I would like to refer to, and that is, something should be done to prevent the bringing in of the common rank of horses that have been imported into this country. The American Government see fit to impose a minimum tax of $30. You may take any horse over there you like, and you have got to pay at least a tax of $30, while our tax on horses brought in from Montana is such a low figure, that they sell them here for $15 and $20 a piece, to compete with the horses which you farmers are raising. I do not think that is right, and we should have protection in that direction; and those who are interested in the breeding societies we have represented here, such as the Clydesdale and Shire men, should appoint representatives to lay the matter before the Government, and I feel sure, irrespective of any political points, they will listen to us, I believe, favorably.

ADDRESS.

By Hon. John Dryden, Toronto.

I desire to express thanks for the grand words Mr. Wellington has said in reference to myself. I think you all know I am always glad to do all that is in my power to help any branch of agriculture, and have been endeavoring to do so in my humble way for a number of years. I want, however, to congratulate this Association, under whose auspices we are meeting here to-night, on the success of the first venture of holding an exhibition separate from the great exhibition which takes place a little later. I am quite in sympathy with it. I believe you have just made a beginning, and if you continue you will find your efforts meeting with far more approval than on this occasion. I was not here this afternoon, but I understand you had a great crowd and a considerable entry of horses. You must remember these things have their beginning, and if you are on the right track you must continue going in the same direction.

If I were to criticize our horse-breeding in this country, it would be with the single thought that our farmers generally have no definiteness of purpose in breeding. You cannot expect a man to accomplish any definite thing unless he has some idea of what he desires to accomplish. If you mingle among the farmers generally, you will find they are breeding horses accidentally; they seem to have a deliberate idea of mixing things. You cannot call the bulk of the horses grades; you have to call them cross-breds, and if you get something good you cannot tell how it happened to come. I think perhaps that is the strongest criticism I would make. It is not the same perhaps with Clydesdales. We have pure bred Clydesdales, and what you call general Heavy Draught horses, and

they are bred mostly in Europe among our Scotch people. They are bred along one line, and you have some idea of what you are to accomplish along that line, but the great bulk are not bred in that way. To remedy this, there ought to be more education; that is, give them more ideals in that way. It was because of the need in this direction we adopted a plan of having special stock judging classes at the Agricultural College, where the different classes of horses, cattle, sheep and swine, have their respective days in classes, and they are judged and discussed. It is wonderful what a man can learn by listening to the discussions which take place in connection with classes of that sort; and I had hoped you would have made some effort to commence something of this sort in connection with this show. Some of you here to-night, I think, do not care for any education of that sort. I am looking into the faces of a good many men who think they know all about horses; but I am speaking to others who can get no knowledge of judging except they get it in this way. And I desire to say, that if there are evils in connection with horse breeding, as Mr. Wellington has said, there is no better way of remedying these evils than giving men light on the subject and letting them see what the outcome is going to be. If you will educate them enough I fancy you will be able to cure the evils without recourse to that more arbitrary measure—law. I believe in education, but I do not believe so much in law. I believe you can have all the law you like, and unless the people are with you it is impossible to accomplish very much; but if we give them the information, and are able to do it in the proper spirit, they of themselves will go in the direction that is indicated. You know we must remember this, that we live in a land of liberty, and if I want to breed a jack-ass I have a right to do so as long as I do not interfere with any other person. Therefore, you would find some trouble in trying to prevent by law a man breeding the way he desired. I think if you study it out you will find if you commence these educative methods and let the people know the ideals, and how to get there, and what would be the effect of this course and the effect of the other, it would be far the better plan. I hope, if you cannot commence this work here on this occasion, that perhaps by another year arrangements can be made so that it can be accomplished.

What Mr. Wellington said is perfectly correct—you need necessary accommodations. We discovered that at the College, and hence this year we brought the classes into the new pavilion which answers the purpose admirably; and you must have something of that sort if you are to do class work here. How are you to obtain these enormous buildings? As Mr. Wellington says, "I am unable to say." I think the Legislature are willing to adopt any measure that seems in the interests of the people, and especially in the interests of that largest of all —the agricultural class, the class to whom all people depend more than any other for their prosperity.

I thank you for your attention, and I have only now to declare that your show which has been inaugurated to-day is open for the future.

ADDRESS.

By Dr. James Mills, O. A. C., Guelph.

I am glad to have an opportunity of meeting so many of the representatives of horse breeding, especially the particular branch which you represent—the breeding of heavy draught horses in this Province of Ontario. I have no hesitation in saying that the breeders of this class of horse are, at the present time, amongst the real benefactors of the Province. I think they are doing good work along the right lines, generally speaking, so far as the breeders of heavy draught horses are concerned.

Horses will always constitute an important branch of live stock in this country, and with the rest of you I am glad to notice a marked increase in the demand—especially for good horses—within the last two or three years, something that is very much needed, as most of you very well know; but whether much real benefit is to accrue to the horse breeders of our Province from this increased demand will depend very much upon ourselves how successfully we approach the work we have in hand.

I shall attempt to make only two or three points this evening, and you will bear with me if I speak more of horses in general, because I was not aware, until I came, that this was entirely a heavy draught horse meeting.

Now the horse is the noblest animal we have—I think we are pretty well agreed on that. And, this being so, I have often wondered how it is that there is so much betting, gambling, and sharp practice in connection with the horse business of this and other countries. I presume it is largely due to the nature of the competition at horse races, so intensely keen, so exciting, so easily seen and understood by all classes and conditions of people. I can see no reason why there should be so much of that that so many people condemn in connection with any branch of the horse business; and the question arises whether or not the Horse Breeders' Association and other horse organizations are doing all they can and should to improve the moral tone of the business all over. I think if these Associations will sweep out the blacklegs and stop the gambling on every race course, you will not have so many people opposed to fair tests of speed at exhibitions and elsewhere. It may be a difficult thing to do, because we are naturally inclined, all of us, to enter into keen competition, such as in horse races. I think it is regrettable that so many of our people object to fair tests of speed under fair conditions at exhibitions and elsewhere, but there is no doubt but that is a fact. And I think it lies within the power of our Associations, and such excellent horsemen as you have represented here tonight, to see if something cannot be done to remove the difficulty which has arisen under that head.

Now everybody—man or woman, boy or girl—likes a fine, nice-looking horse. What, then, is the explanation of the fact that we have in this Province, —in town, village and country alike,—so large a proportion of ill-bred, ill-formed, ugly-looking horses? Now what is the reason four-fifths of our horses are altogether discreditable in appearance, and of comparatively little value when offered for sale on the market? I have travelled a good deal through the Province of Ontario, and I have watched the horses come into Guelph, and I have watched them come into many other towns and villages, and I am sorry to have to say that a very large proportion are ill-formed, loosely-built, ugly-looking horses, such as our people ought not to breed. This may be due to the fact that the breeders have no definite purpose in view. I think that it is an unfortunate thing, as good horses are very scarce, while ugly, comparatively valueless horses are in evidence everywhere. I want a strong, rangy, well-built, nice-looking horse of 1,200 or 1,300 lbs., with good feet and fair action. Where can I get him? Such horses are very scarce.

Now my friend Dr. Smith says we can breed as good horses in Canada as in Europe, and I do not doubt it; but I would like to know how it is that we are breeding such a large proportion of ugly-looking, comparatively useless horses? Is it due to the general ignorance of the principles of horse breeding, or is it due to something else? You are interested in the horses, the Minister of Agriculture, Mr. Wade, we are all interested, and I think it is time we were making some enquiry into the condition of affairs. We have not made nearly as much progress in horse breeding—considering the number raised and fed—as in cattle breeding, sheep breeding and swine breeding. I think that ought not to be so. What is the reason? I say it is due to the fact that the rank and file

of our people are breeding at hap hazard, breeding anything to anything and changing from year to year, with the unfortunate results we have all over the country. Now that raises the question whether the Horse Breeders' Association as a Provincial organization, is doing what it might, through the Farmers' Institutes and otherwise, to educate the rank and file of Ontario farmers in the principles of breeding, feeding and managing horses. I do not know what you think. We had some very interesting talks on beef cattle, dairy cattle, and on the type of bacon hog for the English market, and on sheep and all that; but there are not many men here or elsewhere who can give very valuable information on the breeding of horses—such information as our people require. I think there is room here for development, and whether it is to originate with the Ontario Horse Breeders' Association or the Minister of Agriculture it is time, in my judgment, something was done to take a large step in advance in this question of horse breeding throughout the Province of Ontario. That is certainly a very important matter.

My third point, and last, has reference to two special classes of horses—very high steppers and ugly looking trotters. We like a horse that handles his feet well and steps off nicely, but I think there has been danger of going to an extreme in the effort to get high steppers. Two or three years ago I had the fortune to be present at the great Belfast Horse Show, where I saw the best horses in England, Ireland and Scotland They had some high steppers and some moderate, and I found out they are beginning to get tired of the very high steppers. They said they were in danger of injuring their feet and tiring themselves out with mere leg performance. They wanted a high stepper that would get away over the ground with as little injury to himself as possible. I saw some there that nearly struck their chin every time. Now that tires me, and I am not one who is in favor of going so far in that direction. Many of our best horsemen place an extraordinarily high estimate on speed in trotting regardless of all other considerations. I value a fast horse, whether a runner or a trotter and I think most men do. I have no fault to find with them, but there are many ewe-necked trotters which I would not keep if they could go like Jehu's best gelding. They may be all right for professional horsemen, but I say farmers should not use stallions of that class. If they do four out of their horses will be shapeless, ugly things of very little use on the farm or elsewhere. Of course they are aiming to get trotters, and in doing so they get a mixture of everything.

Now, the first point was to see if we could not raise the tone of our horse business. There is a certain class that ought to be swept off, and the tone of the whole thing raised up to a higher level.

My second point was that Dr. Smith, or the Minister of Agriculture, or somebody who has influence, should look into the unfortunate state of horse breeding in this country. I believe if we educate our young men along right lines in horse-breeding they will do as well as the best in any country can do, and I think the principles of horse-breeding should be discussed at the Farmer's Institute meetings by such persons as our friend Dr. Reed and others.

And the third point had reference to breeding your ordinary stock to trotting horses, no matter what they look like so long as he gets over the ground I think this is a great misfortune, as there is just one man out of five thousand who breed along that line successfully I think the farmers should keep out of this class of horses, and see if they cannot get better looking and more valuable class of horses from them, such as the heavy draught, carriage, or saddle. There is vast need for improvement, and I hope the next time I have anything to say on this subject I shall see evidences of improvement, and I think it is about time.

ADDRESS.

By William Smith, Columbus.

Mention has been made here to-night of the show which commenced here this afternoon, and I feel that the gentlemen who have controlled it and brought it to its present state deserve a great deal of credit. We have had a great many difficulties to face, and one of the greatest was the accommodation or building suitable for that purpose. Last night in taking the chair as President of the Clydesdale Association, I referred to this matter, and while I am told that everyone did not agree with me I think it has done some little good at all events, as it has started up some thought on the subject. And it does appear to me that it would be in the interests of the heavy horsemen of Ontario and the farmers generally for the Government of Ontario to take this matter seriously in hand. Too much money is invested in horse-breeding in Canada to-day to deal lightly with the matter. My idea is—even though it should cost a good deal—that a building should be put up in this city of Toronto that would give every accommodation. I know they may answer that all these things cost money, but, if I remember rightly about, or nearly one hundred thousand dollars of the old Agriculture and Arts Association went into the general funds of this Province, and I cannot help but feel that we almost have a right to ask that back in some of the ways I have indicated; and I repeat again to-night what I said last night, that no one will give the administration more hearty support and commendation than I will upon this matter, if they will deal with it in the liberal way.

Mr. Dryden spoke to-night about one ideal horse-breeding, and I think he spoke very properly in connection with that point. We had hoped that this gathering would have been more of an educational one than it has turned out to be.

I have only one or two things to talk to you about regarding the heavy horse; and while I am more of a Clydesdale man than a Shire man still I have in view the heavy horse we have here in Ontario. I have pointed out more than one occasion that farmers and breeders too often forget that horses cannot be produced in the same way that hogs and sheep are. It takes four or five or six years to place a foal on the market. Six years ago I had the pleasure of addressing a number of Farmers' Institutes in this Province, and I had actually to apologize in speaking in regard to the heavy horses; but I am pleased to say the words which I spoke at that time are now bearing fruit to-day. I pointed out we were on the verge of improvement on these lines, and you know as well as I do the improvements that have been made.

One of the things we have to look to will be this: We must have a market. The market in the United States is perhaps not worth a great deal. We have been rather courting the markets of the mother country. Now, they want a good heavy animal, and that is one of the ideals which you must aim at. Or let me put it in another way: That you, as well as myself, want to produce the very best we know how. You know there is a wonderful difference between a good and poor animal. An animal weighing about 1,600 or 1,700 lbs., sound, and a fair actor, can be sold at almost any price—at any fair price—on the British market. We should aim at that. Let me impress one point in connection with breeding. In Scotland they want to have a horse look big. What does that mean? You know that you can take an animal that you can make weigh heavy by putting flesh upon him, but for the life of you, you cannot use that horse upon the mares we have in Ontario, and have him produce anything but what he is himself; that is, he weighs heavy because he simply has flesh upon him.

Now, if that statement is true, the people of Scotland do not require to fear greatly the improvements of the people of Ontario, because we have not been breeding these horses in the line they have in Scotland and England for many years.

Just one point more. Can we meet the demands of the British market? I believe, with the intelligence and force of character which we have, we can to a great extent meet these demands. Then I want to impress one other point in breeding, that you must always use a stallion that is better than the mare. If you do that you will have some ideal before you; and if you do not do that, you will miss the mark almost every time.

Perhaps from what you have heard from the different gentlemen who have spoken before me you will have some hint or other which you can take back to the country, and which will be of some service to you and assist you in the great arena of breeding the heavy horses. Let me urge one thing more upon you, and it is that nine out of every ten farmers in the Province of Ontario will make more money in breeding the heavy horse than they can by breeding any other that I know of. Then if that is the case it appears to me the position which we have been to a certain extent working for a number of years, should be for the years to come worked even more successfully, and if we keep this high ideal, which has been spoken of before us as farmers and breeders we need have no fear for the future

And I cannot help but urge one thing more—that as the days roll by some effort will be made whereby we will have accommodation which will be suitable to our necessities. I would not like to say that without expressing our heartfelt thanks to Mr. W. Harland Smith for the way in which he has met our wishes. I was going to say he has done for this Show more than the city of Toronto has ever done, and taking that view I cannot help but feel we are under a debt of gratitude to him. But as the time passes by I hope we will have accommodation which will be suitable for holding such shows as we have in the Province of Ontario to-day.

ADDRESS.

By Lt.-Col. D. McCrae, Guelph.

I quite agree with what Mr. Smith has said. We are quite in need of some building to hold these shows in. May I say this, that while this is far below what we had hoped to make this show, yet we have had a good show, and I think the Directors deserve credit for what they have done. We had a bigger scheme planned. We not only wanted to have heavy draught and Shires and Clydes, but we also wanted to include other breeds, such as Thoroughbreds, Carriage and Hackneys, that we might have all the horses that we want to see bred in Canada, and have the breeding fairly represented in this Spring Stallion Show.

In the second place, we want this show to be a starting point by which we will start in co-operative clubs, in order to procure the best horses for travelling. We would very much like to see clubs organized in this country, whereby the best sires available could be secured by giving them a bonus; and I may say the Canadian Horse Breeders' Association are offering prizes to aid any of these clubs so formed.

Again, we had arranged a system of classes on horse breeding, on horse handling, and on horse judging and we had the promise of several Professors, not only of Canada, could we have arranged it. But we could not find a suitable building in which to have these plans carried out, and we were compelled to

drop the scheme because we could not get proper accommodation. May I say the idea was to have classes open in the morning, and continue each day until Saturday night, and all points pertaining to breeding and raising horses would be taken up by active good horsemen from different sections of the country. We hope to do that for the future; we have done the best we could, under the circumstances, for the present.

THE CANADIAN SPRING STALLION SHOW, 1903.

Breeders and exhibitors of Clydesdale and Shire Stallions having expressed a desire to have the Annual Spring Show of heavy stallions earlier than the date generally selected for the Canadian Spring Horse Show, because they considered that they would do more business at a Show held in February or March, the Horse Breeders' Association determined to meet their views and hold a show for for heavy stallions on February 4th, 5th, and 6th. Committees from the Clydesdale and Shire Associations were associated with the Home Breeders' Association, and Grand's Respository was selected as the place to hold the show. This fine building was very kindly put at the services of the breeders by its proprietor, Mr. Walter Harland Smith. It was soon found that large as is the building, the capacity of it judging ring would be more than taxed by the very large number of entries in some of the classes. In fact the class for aged Clydesdales had to be divided, making one for stallions foaled previous to 1899, and another for those foaled in 1899, and even then the entries in each more than comfortably filled the ring.

The show of Clydesdales was the best ever seen in Canada in point of numbers and quality, and was very encouraging to the promoters of the show. While the display of Shires was not large, there were some good ones entered, such as will serve to improve the stock of the country.

PRIZE WINNERS AT THE SPRING STALLION SHOW, TORONTO.

CLYDESDALE STALLIONS, FOALED PREVIOUS TO JAN. 1ST, 1899.

1st Stately City (imp.) [3362] [10466], brown, foaled April, 1896 Bred by Thos. Black, Livingstone, Scotland. Imported and exhibited by Graham Bros., Claremont, Ont.; sire, Prince Romeo [3536] (8144); dam, Nancy of New York Field [3817] (12710), by Roving Boy (vol. 10, S.C.B.).

2nd. King's Cross (imp.) [3153] [10070], brown, foaled May, 1894. Bred by Hugh Todd, Harperland, Ayrshire, Scotland. Imported and exhibited by Smith & Richardson, Columbus, Ont.: sire, Sir Everard [3066] [5353]; dam, Lady of Wales [3837] (9226), by Prince of Wales (673)

3rd. Duke of Cornhill (imp.) [3155] (11324), bay, foaled August, 1898. Bred by And. Clokie, Bog House, Port William, Scotland. Imported and exhibited by Smith & Richardson, Columbus, Ont.; sire, Duke of Rothesay (9191); dam, Young Fanny of Boghouse (5308), by Young Farmer (1880).

4th. Prince Priam (imp.) [3616] (10854), dark brown, foaled June, 1898. Bred by Jas. Dick, Ballinton, Scotland. Imported and exhibited by Robt. Beith, M.P., Bowmanville, Ont.; sire, Prince of Albion [2895] (6178); dam, Jessie Anne [3911] (12448), by Mountain Boy [3617] (6099).

5th. Sir Reginald (imp.) [3561] (10930), black, foaled 1898. Bred by R. C. Macfarlane, Greenburn, Scotland. Imported and exhibited by J. B. Hogate, Sarnia, Ont.; sire, Sir Everard (5353); dam, Iris (13159), by Lord Erskine (1744).

6th. Laird of Craigie (imp.) [3378] (11084), brown, foaled May, 1898 Bred by Jas. A. Campbell, Craigie, Ayr, Scotland Imported and exhibited by Smith & Richardson, Columbus, Ont.; sire, Ethiopia (5750); dam, Princess Albion (1382), by Prince of Albion, (6178).

7th. Sir Oswald (imp.) [3631] (10288), dark brown, foaled April, 1895. Bred by Jas. Davidson, Newton of Cairnie, Huntly, Scotland Exhibited by W. J. Squires, Mitchell, Ont.; sire, Prince of Scotia (7161); dam, Wee Mary (8410), by McCamon (3818).

8th. Pride of Morning, (imp.) [3576] (10838) brown, foaled June, 1898. Bred by A. M. Mackay, Bruchag, Rothesay, Scotland Imported and exhibited by O. Sorby, Guelph, Ont.; sire, Baron's Pride (9122); dam, Roseleaf (12847), by Rosemount (8953).

9th. Climax (imp.) [3622] (10529), bay, foaled May, 1897. Bred by Arch. Brown, Balcraig, Port William, Scotland. Imported and exhibited by Wm. Colquhoun, Mitchell, Ont; sire, Baron's Pride (9122); dam, Jean of Balcraig (12717), by Lord Erskine (1744).

Clydesdale Stallions foaled in 1899.

1st. Pioneer (imp.) [3374] (11131), dark brown, foaled April, 1899. Bred by representatives of the late John Cassie, Old Meldrum, Scotland. Imported and exhibited by Smith & Richardson, Columbus, Ont.; sire, Sir Archur (10445); dam, Grace Erskine (12736), by Lord Erskine (1744).

2nd. Peveril (imp.) [3613] (11452), bay, foaled May, 1899. Bred by John Little, Blackpark, Scotland. Imported and exhibited by Robt. Beith, M.P., Bowmanville, Ont.; sire, The Prior [3620] (10470); dam, Madam of Blackpark [3917] (14277), by Ghillie Callum [3076] (3629).

3rd. Star of Roses (imp.) [3614] (11551), dark bay, foaled 1899. Bred by Mrs. Clokie, Bog House, Port William, Scotland. Imported and exhibited by Robt. Beith, M.P., Bowmanville, Ont.; sire, King of the Roses [3493] (9927); dam, Tiara [3913] (9500), by Lord Douglass (3618] (2961).

4th. Border Sentinel (imp.), [3641] (10990), bay, foaled May, 1899. Bred by Wm. McKinlay, Midtown, Douglas, Scotland. Exhibited by Graham Bros., Claremont, Ont; sire, Montrave Sentinel (10094); dam, Meg of Midtown (13941), by Border Chief (4262).

5th. Coynachie (imp.) [3623] (11314), bay, foaled June, 1899. Bred by W. Wilson, Coynachie, Gartly, Scotland. Imported and exhibited by Wm. Colquhoun, Mitchell, Ont.; sire, Blacon Macgregor (10167); dam, Polly of Coynachie (14902), by Eastfield Model (6721).

6th. Primrose Pride (imp.) [3355] (11138), bay, foaled May, 1899. Bred by Robt. Cochran, Portencallie, Scotland. Exhibited by H. G. Boag, Churchill, Ont.; sire, Baron's Pride (9122); dam, Violet of Portencallie (9503), by Darnley (222).

7th. Gallant Lorne (imp.) [3407] (11344), dark brown, foaled July, 1899. Bred by Jas. Paterson, Sandiston, Scotland Exhibited by Graham Bros., Claremont, Ont; sire, Prince Gallant (6176); dam, Darling (5692), by Lorne (499).

8th. Carron Jamie (imp.) [3590] (vol. 25, S.C.B.), brown, foaled 1899. Bred by John Young, Cobblebrae, Scotland. Imported and exhibited by J. B Hogate, Sarnia, Ont.; sire, Gold Found [3591] (10200); dam, Heather Bell (vol. 25, S C.B.), by Juryman [3592] (5906).

Clydesdale Stallions Foaled in 1900.

1st. Cairnhill (imp.) [3645] (11292), b'ack, foaled May, 1900. Bred by Jno Struthers, Longhouse, Hurlford, Scotland. Imported and exhibited by Graham Bros., Claremont, Ont.; sire, Ethiopia (5750); dam, Bess of Longhouse (14858), by Sterling (9425).

2nd. Cecil (imp.) [3352], bay, foaled April, 1900. Bred by Lords A. & L. Cecil, Orchardmains, England. Imported and exhibited by Robert Ness, Howick, Que.: sire, Macara (6992); dam, Minuet (14165), by Cedric (1087).

3rd. Lavender (imp.) [3375] (11394), brown, foaled, 1900. Bred by Robt. Turner, Portsoy, Scotland. Imported and exhibited by Smith & Richardson, Columbus, Ont.; sire, Glenzier (10353); dam, May Montrose (13646), by Lord Montrose (7973).

4th. Craig Stamp (imp.) [3365] (11316), bay, foaled May, 1900. Bred by James Milroy, Craig Whithorn, Scotland. Imported and exhibited by Graham Bros., Claremont, Ont.; sire, Up to Time (10475); dam, Mayflower; by Cairnbrogie Stamp (4274).

5th. Florist (imp.) [3573] (11337), brown, foaled May, 1900. Bred by C. Brown, Newside, Thankerton, Scotland. Imported and exhibited by O Sorby, Guelph, Ont.; sire, Montrave Florist [3574]; (10240); dam, Missie, by The Kaiser [3575] (7325).

6th. Silver Prince [2935], dark bay, foaled May, 1900 Bred and exhibited by Hugh Semple, Hereward, Ont.; sire, Gay Prince (imp.) [2470] (10779); dam, Molly Darling [2261], by Lord Wilton (imp.) [744] (5180).

7th. Kitchener (imp.) [2933], bay, foaled May, 1900 Bred by James Smith, Pittengardner, Scotland. Imported and exhibited by T. Swan Smith, Montreal; sire, Baron Blantyre [3062] (10497); dam, Glithero Nettie (11036), by Garnet Cross (1662).

8th. Black Benedict (imp.) [3563] (11275), black, foaled June, 1900. Bred by Geo. Bean, West Ballochy, Montrose, Scotland. Imported and exhibited by J. B. Hogate, Sarnia, Ont.; sire, Benedict (10315); dam, Bright Smile (10392), by Prince Charlie, (629).

Clydesdale Stallions foaled in 1901.

1st. Royal Park (imp.) 3595] (vol. 25, S.C.B.), bay, foaled May, 1901. Bred by Geo. McHarg, Barnheys, Ayrshire, Scotland. Exhibited by J. B. Hogate, Sarnia, Ont.; sire, Montrave Mac [3087] (9958); dam, Mary Kirkmichael (vol. 25, S C B.), by Douglas Jerrold [3596] (6690).

2nd. Glenevis [2847], bay, foaled June, 1901. Bred by Graham Bros., Clarmont, Ont. Exhibited by John A. Turner, Calgary, Alta.; sire, Macqueen (imp.) [462] (5200) 3513; dam, Cherry Sweet [2787] 4092, by Cedric (imp.) [2262] 929 (1087).

3rd. Alexander Macqueen [3291], bay, foaled April, 1901. Bred and exhibited by J. W. Cowie, Markham, Ont; sire, Macqueen (imp.) [462]; dam, Nellie Rosewood [3486], by Lord Wellington (imp.) [2962] (6981).

4th. Lyon Macqueen [3632], light bay, foaled May, 1901. Bred and exhibited by J. H. Millard, Altona, Ont.; sire, Macqueen (imp.) [462] (5200) 3513; dam, Blossom (imp.) [361], by Lord Lyon (489).

Canadian Bred Clydesdale and Shire Stallions foaled previous to Jan 1st, 1900.

1st. Woodruffe Ploughboy [2396], bay, foaled May, 1894. Bred and exhibited by J. G. Clark, Ottawa, Ont.; sire, Invader (imp.) [921] (6854); dam, Independence [385], by Windsor (imp.) [547] (2509).

2nd. Lord Aberdeen [2616], bay, foaled May, 1897 Bred and exhibited by Francis Russell, Cedarville, Ont.; sire, Hurthworth (imp.) [2490] (5086); dam, Cedarville Polly [2700] by Hard Times (imp.) [1160] (5086).

3rd. Merriment 2nd [3117], bay, foaled November, 1898. Bred by S. C. Bunker, Pickering, Ont.; exhibited by Graham Bros., Claremont, Ont.; sire, Merriment (imp.) [2780] (6081) dam, Dolly Mayflower 2nd [787], by Mount Annan (imp.) [471] (3851).

4th. Granite Lad [2338], dark bay, foaled May, 1893. Bred by D. Duncan, Hagerman's Corners, Ont. Exhibited by W. F. Broad, V S , Lindsay, Ont ; sire, The Granite City (imp.) [709] (5397) ; dam, Poll of Hagerman [1637], by Lochiel (imp) [562] (2950).
5th. Prince Royal [2318], bay, foaled June 13th, 1897. Bred by J A. Atkinson, Dartford, Ont. Exhibited by Geo. Isaac, Bomanton, Ont. : sire, Sir Henry Fielding (imp.) [2319] (9412) ; dam, Lily of Darlington [2148], by The Granite City (imp.) [709] (5397).

CANADIAN BRED CLYDESDALES AND SHIRE STALLIONS FOALED PREVIOUS TO JANUARY 1ST, 1900.

1st. Gordon Anderson [2399], bright bay, foaled April, 1896. Bred by John Hutchinson, Millbrook, Ont. Exhibited by Ed. Hoy, Orchard, Ont. ; sire, Lewie Gordon (imp.) (1602] (7918) ; dam, Mag of Millbrook [2432], by John Anderson (imp.) [549] (3707).
2nd. Laird Macqueen [3213], bright bay, foaled May, 1899. Bred and exhibited by W. J. Wells, Temperanceville, Ont. ; sire, Young Macqueen [2290] ; dam, Maud W. [3366], by Rustic Laird (imp.) [2973] (3158).
3rd. Money Maker [3559], golden bay, foaled June, 1899. Bred and exhibited by Richard Willis, Pine Grove, Ont.; sire, Fitz James (imp.) [807] (6030) ; dam, Queen of the Clydes [3858], by Macneilage (imp.) [1117] (2992).

CANADIAN BRED CLYDESDALE AND SHIRE STALLIONS FOALED IN 1900.

1st. Pride of Eastfield [2828], bay, foaled May, 1900. Bred by A. W. Clemens, Tyrone, Ont. Exhibited by Graham Bros., Claremont, Ont.; sire, Eastfield Laddie (imp.) [1127] (6719); dam, Carrie [1765], by Pride of Eastfield (imp.) [819] (7113).
2nd. Lord Donald [3058], bright bay, foaled April, 1900. Bred by Wm. Rae, St. Pauls, Ont. Exhibited by Eaid & Everett, Simcoe, Ont.; sire, Hold Boy (imp. [1149] (4257); dam, Lady Jordanshaw [1820] by Lord Russell (imp.) [1020] (6013).
3rd. General Gordon [3174], bay, foaled June, 1900. Bred by Andrew Annan, Dunbarton, Ont. Exhibited by Smith & Richardson, Columbus, Ont : sire, Lawes' Baron Gordon (imp.) [1005] (5136); dam, Dunbarton Nell [3307], by Eastfield Laddie (imp.) [1127] (6719).
4th. General Macqueen [3175], brown, foaled September, 1900. Bred by Fred Richardson, Columbus, Ont. Exhibited by Smith & Richardson, Columbus, Ont. ; sire, Macqueen (imp) [462] (5200); dam, Nell [3308], by Queen's Own (imp.) [1708] 7266 (7176).
5th. Perfection [3471], dark bay, foaled May, 1900 Bred and exhibited by Delly Bennett, Russelton, Ont.; sire, Montrave Chief (imp.) [537] (5222); dam, Golden Bet [3705], by Golden Gem (imp.) [2004] (5053).
6th. Union Boy [3380], bay, foaled July, 1900 Bred by R. S. Cox, Amber, Ont. Exhibited by Jas. Gostlin, Lindsay, Ont.; sire, Young Duke of Fife (imp.) [2463] (10300); dam, Amber Queen [3567], by Mount Annan (imp.) [471] (3851).

CANADIAN BRED CLYDESDALE AND SHIRE STALLIONS FOALED IN 1901.

1st. Macqueen 2nd [3298], bay, foaled June, 1901. Bred by Robt. Whitson, Atha, Ont. Exhibited by J. W. Cowie, Markham, Ont.; sire, Macqueen (imp.) [462]; dam, Rose of Atha [1543], by Lord Salisbury (imp) [246] 428 (1477).
2nd. Charming Prince [3217], bay, foaled May, 1901. Bred by Hector McCaig, Aberfoyle, Ont Exhibited by O Sorby, Guelph, Ont.; sire, Lord Charming [2264] 7564; dam, Fan Grandeur [3411], by Grandeur (imp.) [1724] 8202 (6814).
3rd. Royal Sensation [3336], bay, foaled June, 1901. Bred by Jos. Barnett, Victoria Square, Ont. Exhibited by Robt. Davies, Toronto; sire, Lyon MacGregor [2308]; dam, Jane of Markham [2438], by Goldfinder (imp.) [714] (3661)
4th. Mac Carra [3565], bay, foaled June, 1901 Bred and exhibited by Geo. Davidson & Sons, Cherrywood, Ont.; sire, Macqueen (imp.) [462] 3513 (5200); dam, Fair Queen [3920], by Queen's Own (imp.) [1708] (7176)
5th. Pearl Prince [3456], bay, foaled May, 1901. Bred and exhibited by D. Carstairs, Bomanton, Ont.; sire, Cairnbrogie Prince (imp) [2538] (9719); dam, Bertie [2909] 7081, by Abbot of Rerwick (imp) [575] 6999 (5474).
6th. Arbitrator Again [3351], bay, foaled August, 1901. Bred and exhibited by J G. Clark, Ottawa, Ont.; sire, Arbitrator (imp) [1124]; dam, Independence [385], by Windsor (imp.) [547] (2509)
7th. Lieutenant Junior [3442], black, stripe, nigh fore and hind feet white, foaled May, 1901. Bred by Joseph Norton, Goodwood. Exhibited by W. R. Stewart, 665 Queen street east, Toronto; sire, Lord Lieutenant (imp.) [975] (4529); dam, Goodwood May [3661], by Prince James (imp.) [941] 7445 (7129).

CANADIAN BRED CLYDESDALE AND SHIRE STALLIONS, FOALED SUBSEQUENT TO OR ON JAN. 1ST, 1902.

1st. Macqueen's Best [3323], bay, foaled April, 1902. Bred and exhibited by J. W. Cowie, Markham, Ont. ; sire, Macqueen (imp.) [462] 3513 (5200) ; dam, Fanny Redmond [2530] 7748, by Brown James (imp.) [731] 7044 (5595).
2nd. Proud Gordon [3411], dark brown, foaled April, 1902. Bred by Jas. Leonard, Schomberg, Ont. Exhibited by H G. Boag, Churchill, Ont. ; sire, Lewie Gordon (imp) [1602] (7918) ; dam, Minnie Bright [3619], by the Bright (imp.) [111] (5393).
3rd. Simon Macgregor [3605], brown, foaled April, 1902. Bred by Simon Marshall, Lindsay, Ont. Exhibited by Jas. Gostlin, Lindsay, Ont. ; sire, Prince Erskine [2994] ; dam, Big Fan [3904], by Lewie Gordon (imp.) [1602] (7918)

SHIRE STALLION, FOALED PREVIOUS TO JANUARY 1ST, 1900.

1st. Flagship (imp.) [286] (17347), bay, foaled 1897. Bred by R. Gornall, Pilling, Garnstang, England. Exhibited by J. J. Anderson, Dominionville, Ont.; sire, Timon (5391); dam, Fanny (8005), by Priam (1767).
2nd. Nateby Monarch 2nd (imp.) [365] (18967), black, foaled in 1899. Bred by Thos. Bradley, Alston, Preston, England. Imported and exhibited by J. B. Hogate, Sarnia, Ont.; sire, Tartar 2nd (15385); dam, Beauty (19064), by Eiffel Tower (9271).
3rd. George Lennox [261], chestnut, foaled, May 1892. Bred by Benj. Johnston, Rodney, Ont. Exhibited by Morris & Wellington, Fonthill, Ont.; sire, Lennox (imp.) [103] (7574); dam Ruby [156], by The Masher (imp.) [184] (5378).

SHIRE STALLIONS, FOALED IN 1900.

1st. Bank Statesman (imp.) [352], bay, foaled 1900 Bred by by E. Thomas, Westbury, Shrewsbury, England Imported and exhibited by Morris & Wellington, Fonthill, Ont.; sire, Carltonie (13946); dam, Brown, by Potentate (12086).
2nd. Vulcan 2nd [318], roan, foaled 1900. Bred and exhibited by Morris & Wellington, Fonthill, Ont.; sire, Bahaillon Vulcan (imp.) [274] (16502); dam, Lena [81], by Chieftain 2nd (imp.) [194] (5723).

SHIRE STALLIONS, FOALED IN 1901.

1st. Coronation (imp.) [354], black, foaled 1901. Bred by J. S. Cock, Moulton, Spalding, England. Imported and exhibited by Morris & Wellington, Fonthill, Ont.; sire, Lockinge Harold (16779); dam, Blossom (30909), by Bar None William (10903).
2nd. General Favorite (imp.) [353], black, foaled 1901. Bred by G. L. Morris, Thorney, Peterboro, Eng. Imported and exhibited by Morris & Wellington, Fonthill, Ont.; sire, Lockinge Harold (16779); dam, Fenland Smiler (33695), by Bar None William (10903).

CHAMPIONSHIPS.

CLYDESDALE STALLION, ANY AGE.

1st. Stately City (imp.) [3362] (10466). Exhibitors, Graham Bros., Claremont, Ont.

SHIRE STALLION, ANY AGE.

1st. Coronation (imp.) [344]. Exhibitors, Morris & Wellington, Fonthill, Ont.

NINTH CANADIAN HORSE SHOW.

As in 1901, the Canadian Horse Show Executive came to an agreement with the military authorities to combine their energies and hold a joint horse show and military tournament on April 29, 30 and May 1st and 2nd. There was not the same pressing necessity as in previous years for holding the show as early as possible in April, because, prizes having been awarded in February to all classes of heavy stallions, the owners of these were not put to the trouble of taking their horses off their routes to bring them to the spring show. It was well that the show was not held any earlier this year, because the cool weather that prevailed nearly up to the time of the show would have had a most deterrent effect on the attendance. As it was, the weather was, with the exception of Friday afternoon and evening, when it rained (which however did not affect the attendance) and on Saturday which was cool, fairly propitious, and the crowds who attended all the events were larger than ever. Saturday morning, school children's day, was a record breaker, and the large building was packed with a most enthusiastic crowd of youngsters.

The ring for showing the horses was made much larger than ever before, but still was none too large to accommodate the numerous large classes of horses. The entries excelled those of all previous years by a considerable number, and the quality was never better. His Excellency Lord Minto showed his interest by being present on several occasions, having opened the show formally on the first afternoon. This is the third year in which he has offered a prize and medal for cavalry horses bred in Canada, a class which it is to be regretted was not better filled on this occasion. Probably the change in the conditions made after the original prize list was issued deterred some from exhibiting.

In the breeding classes prizes were offered for Thoroughbreds, Coach, Roadster and Hackney stallions and for Hackney mares and single pairs of heavy draughts. Thoroughbred stallions were below the average; Coach stallions and Roadsters better than usual, while Hackneys made a good display.

The heavy draught geldings and mares were very good, some most massive, powerful horses being shown.

In spite of the fact that there were extra classes for harness and saddle horses and hunters the classes were in many cases almost too large to be handled satisfactorily, even in the big ring, but the judges did their work well notwithstanding. Ponies were more numerous than ever before, and there was a good representation of polo ponies, to the breeding of which farmers might draw their attention

Single roadsters under 15 hands 3 inches were a very large class. Two classes were this year offered for pacers, for those under 16 hands 3 inches and those exceeding that height. Both contained a number of excellent animals.

PRIZE LIST.

Breeding Classes.

Thoroughbreds.

Judge: R. R. Pringle, Cobourg.

Stallions foaled previous to January 1st, 1900.

1st. Tragedian, chestnut, aged. Exhibitors, Crow & Murray, Toronto.
2nd. Dunrobin, bay, foaled in 1899. Exhibitor, W. J. Thompson, Hamilton; sire, Dermentwater; dam, Woodbine Strathspey.

Stallions foaled subsequent to and on January 1st, 1900.

1st. Prince Arthur, brown, foaled in 1900. Exhibitor, E. B. Clancy, Toronto; sire, Pillarist (imp.); dam, Miss Vanderbilt.
2nd. Bill of the Play, bay, foaled in 1900. Exhibitor, J. G. Barbour, Toronto; sire, Billetto; dam, Souvenir.

Stallions qualified to improve the breed of Saddle Horses and Hunters.

1st. Dalmoor, bay, foaled in 1894. Exhibitor, E. Whyte, Aldershot: sire, Louis XIII.; dam, Lady Dalmeny.
2nd. Trinity, chestnut, aged. Exhibitor, W. A. Lawrence, Milton; sire, Forester; dam, British Beauty (imp.)
3rd. Billetto, bay, foaled in 1884. Exhibitor, M. A. Barbour, Toronto; sire, Billet (imp.); dam Calomel.

Best Thoroughbred Stallion. Presented by Toronto Electoral District Agricultural Society.

1st. Dalmoor. Exhibitor, E. Whyte, Aldershot.

Carriage or Coach Stallions.

Judges: R. Gibson, Delaware; Geo. McCormack, London.

Stallions foaled previous to January 1st, 1900.

1st. Lord Roberts, 1126, bay, foaled in 1898. Exhibitor, J. L. Reid, Derry West; sire, Wiley Buckles; dam, Fuchsia (imp.)
2nd. General Buller, bay, foaled in 1898. Exhibitor, J. L. Reid, Derry West; sire, Wiley Buckles; dam, Hyacinth (imp.)
3rd. Performer, bay, foaled in 1897. Exhibitor, W. N. Scott, Milton; sire, Phenomenon (imp.); dam, by Derby (imp.)

Stallions foaled subsequent to and on January 1st, 1900.

1st. Reformer, bay, foaled in 1900. Exhibitor, A. G. H. Luxton, Milton; sire, Terrington Boy; dam by Clear Grit.
2nd. Royalty, grey, foaled in 1901 Exhibitor, H. N. Crossley, Rosseau; sire, Rosseau Royal Oak—78—; dam, Xarifa—38—F.S.
3rd. Lord Kitchner, bay, foaled in 1900. Exhibitor, J. L. Reid, Derry West; sire, Wiley Buckles; dam, Fuchsia.

STANDARD BRED ROADSTER STALLIONS.

JUDGES: Geo. McCormack, London; Robt. Graham, Claremont.

Stallions foaled previous to January 1st, 1900.

1st. Golden Jubilee, 29574, chestnut, foaled in 1895. Exhibitors, Cheyne & Armstrong, Derry West; sire, Norfolk, 3670; dam, Gipsey Wilkes.
2nd. Lord of the Manor, 23216, black, foaled in 1893. Exhibitor, G. W. Kennedy, Ilderton; sire, Mambrino King 1279; dam, Princess Chimes.
3rd. Sylvester J., 32799, black, foaled in 1896. Exhibitor, Miss K. L. Wilks, Galt; sire, Allie Wilks; dam, Lady Anglin.

Stallions foaled subsequent to and on January 1st, 1900.

1st. Rex W., F. 37551, chestnut, foaled in 1901. Exhibitor, Miss K. L. Wilks, Galt; sire, Dashwood; dam, Sphinxena.
2nd. Sir Casimir, 34,843, brown, foaled in 1900. Exhibitor, G. W. Kennedy, Ilderton; sire, J. J. Case—7511—; dam, Aila G.

HACKNEYS.

JUDGES: Robt. Graham, Claremont; R. Gibson, Delaware.

Stallions foaled previous to January 1st, 1900.

1st. Saxon—97—dark brown, star, off fore coronet and both hind heels white; foaled May 2, 1899. Bred by Rawlinson Bros., Calgary, Alta. Exhibited by R. Beith, M.P., Bowmanville; sire, Robin Adair 2nd (imp.)—63—(3907); dam, Fimber Pride (imp.)—64—(3798).
2nd. Kitchener (imp.)—165—7143, brown, near hind fetlocks white, foaled in 1897. Bred by H. Fawcett, Belthorpe, Eng. Exhibited by T. Irving, Winchester; sire, Maidstone Masher, 5717; dam, Miss Adamson, 8269.

Stallions foaled subsequent to and on January 1st, 1900.

1st. Smylett Performer (imp.—164—chocolate chestnut, ratch, off fore foot and near fore and hind legs white, foaled May 16, 1900. Bred by W. D. Petch, Polkington, Eng.; exhibited by R. Beith, M. P., Bowmanville; sire, His Majesty, 2513; dam, Smylett Primrose, 12307.
2nd. Jubilee Performer—121—black, foaled June 15, 1901. Bred by O. Sorby, Guelph; exhibited by T. A. Cox, agent, Brantford; sire, Jubilee Chief (imp.)—[illegible]—108 (2122); dam, Miss Baker (imp.)—16—
3rd. Toscar—125—bay, foaled June 30, 1901. Bred by and exhibited by R. Beith, M.P., Bomanville; sire, Lord Roseberry (imp.)—9—402 (1307); dam, Lady Brookfield—105.

Mares foaled subsequent to and on January 1st, 1900.

1st. Queen of the Party—133—chestnut roan, stripe in face, off fore foot and hind legs white below joints, foaled April 12, 1900. Bred and exhibited by H. N. Crossley, Rosseau; sire, Rosseau Performer (imp.)—34—(5391); dam, Lady Cocking (imp.)—11—(5530).
2nd. Peerless—132—strawberry roan, small star, lower part of hind pasterns white, foaled May 11th, 1900. Bred and exhibited by H. N. Crossley, Rosseau; sire, Rosseau Performer (imp.)—34—(5391), dam, Rosseau Fililers—56—

High Stepper, Mare or Gelding, not under 15 hands. To be shown before a suitable conveyance, and sired by a registered Hackney Stallion.

1st. Derby's Pride, b.m., 15.2, 4 years. Exhibitor, A. Yeager, Simcoe; sire, Hillhurst Sensation—58—
2nd. Gay Boy, b.g., 15.1, 4 years. " A. Yeager, Simcoe; " " "
3rd. Duke, b.g., 15.2½, 6 years. " P. Maher, Toronto; sire, Courier (imp.)—26—

Sweepstakes—Best Hackney Stallion, any age, foaled in Canada; given by the Canadian Hackney Society.

1st. Saxon—97—. Exhibitor, R. Beith, M.P., Bowmanville.

Sweepstakes—Best Hackney Mare, any age, foaled in Canada; given by the Canadian Hackney Society.

1st. Canadian Queen—193—bay, hind legs white, star, foaled October 6, 1899, bred and exhibited by R. Beith, Bowmanville; sire, Squire Rickell—74—; dam, Cherry Ripe, by Jubilee Chief (imp.)—1—(2122).

Sweepstakes—Best Hackney Stallion, any age; given by the Toronto Industrial Exhibition.

1st. Saxon—97—Exhibitor, R. Beith, M.P., Bowmanville.

Sweepstakes—Best Hackney Mare of filly by an imported sire and out of an imported dam, both registered in the English Hackney Stud Book; given by Hackney Horse Society of Great Britain.

1st. Queen of the Party—133—. Exhibitor, H. N. Crossley, Rosseau.

Sweepstkaes—Best Hackney Stallion or entire colt, by an imported sire out of an imported dam, both registered in the English Hackney Stud Book; given by Hackney Horse Society of Great Britain.

1. Saxon—97—Exhibitor, R. Beith, M.P., Bowmanville.

Best Mare or Gelding exhibited in single harness, sired by a registered Hackney; given by Hackney Horse Society of Great Britain.

1st. Derby's Pride, b.m. foaled in 1899. Exhibitor, A. Yeager, Simcoe; sire, Hillhurst Sensation—58—.

Pair of Draught Mares or Geldings, any breed whatever, shown in harness.

JUDGES: Peter Christie, Manchester; R. Gibson, Delaware.

1st. Moss King, b. g., 4 years; Moss Rose, 2nd. b. m., 6 years. Exhibitor, T. A. Cox, agent, Brantford.
2nd. Wallace, b. g., 16.3, 4 years; Bruce, b g., 16.3½, 4 years. Exhibi or, Geo. Moore, Waterloo.
3rd. Dock, b. g., 5 years; Jock, b.g., 5 years. Exhibitor, Dentonia Park Farm, Coleman.

Single Draught Mare or gelding, any breed whatever, shown to a cart or wagon.

1st. Moss King, b. g., 4 years. Exhibitor, T A Cox, agent, Brantford.
2nd. Jimmie, b. roan g., 17, 4 years. Exhibitor, H Pelton, Embro.
3rd. Sandy, ch g., 4 years. Exhibitor, John Larmon, Toronto.

Pair of Draught Mares or geldings, sired by a registered Clydesdale Stallion; given by Canadian Clydesdale Horse Association.

1st. Moss King, b.g., 4 years; sire Sir Erskine [2119]; Moss Rose 2nd b.m. 6 years, sire, Macqueen [462]. Exhibitor, T. A. Cox, agent, Brantford.
2nd. Wallace, b.g., 16 3, 4 years; sire, Joe Anderson (imp) [1742] Bruce, b.g., 16 3½, 4 years; sire, Joe Anderson (imp) [1742]. Exhibitor, Geo Moore, Waterloo.
3rd. Dock, b.g., 5 years; sire, Westfield Stamp (imp.); Jock, b.g., 5 years; sire, Lord Lynedoch. Exhibitor, Dentonia Park Farm, Coleman

HARNESS HORSES.

Mare or Gelding over 14 hands 1 inch and under 15 hands 1 inch to be shown to a gig, cart or phaeton.

JUDGES:—G. B. Hulme, New York; R. Graham, Claremont; W. J. Stark, Stouffville.

1st. Gay Boy, b. g., 15.1, 4 years. Exhibitor, A. Yeager, Simcoe.
2nd. Judge, ch. g., 15.0¾, 5 years. Exhibitor, H. C. Cox, Toronto.
3rd. Sparkle, b. m., 14.3, 5 years. Mrs. A. Beck, London.

Mare or Gelding, 15 hands 1 inch and under 15 hands 3 inches. To be shown to a gig, cart or phaeton.

1st. Creighton, b. g., 15.2, 6 years. Exhibitor, G. Pepper, Toronto.
2nd. Derby's Pride, b.m., 15.2, 4 years. Exhibitor, A. Yeager, Simcoe.
3rd. Flashlight, b. g., 15.2½, 5 years. Exhibitor, Crow & Murray, Toronto.

Mare or Gelding, 15 hands 3 inches and over. To be shown to a gig, cart or phaeton.

1st. Duke, b g., 15.3, 6 years. Exhibitor, P. Maher, Toronto.
2nd. Flyer, br. g., 15.3, 9 years. Exhibitor, Mrs. F. M. Fraser, Toronto Junction.
3rd. Queen of the Party—133—roan m. 3 years. Exhibitor, H. N. Crossley, Rosseau.

Pair of Horses, mares or geldings, under 15 hands 2½ inches. To be shown to a four-wheeled vehicle.

1st. Creighton, b. g., 15.2; Mate, b g., 15 2½. Exhibitor, G. Pepper, Toronto.
2nd. Judge, ch. g., 15.0¾, 5 years; Jury, ch. g., 15.0¾, 5 years. Exhibitor, H C. Cox, Toronto.
3rd. Derby's Pride, b.m., 15.2, 4 years; Derby Sportsman, b. g. Exhibitor, A. Yeager, Simcoe.

Pair of Horses, Mares or Geldings, 15 hands 2½ inches and over. To be shown to a four-wheeled vehicle.

1st. Duke, b. g., 153, 6 years; Macgregor, b. g., 15.2, 5 years. Exhibitor, P. Maher, Toronto.
2nd. Galt, br. g., 16, 6 years; Perry, br. g., 16, 6 years. Exhibitor, A. S. Chisholm, Oakville.
3rd. Flyer, br g., 15.3, 6 years; On Time, br g., 15.2½, 6 years. Exhibitor, Mrs. F. M. Fraser, Toronto Junction.

Pair of Horses, not under 15 hands 2 inches, shown before a brougham. Horses to count 60 per cent.; brougham and appointments 40 per cent. Horses and brougham to have been owned by exhibitor since April 1st, 1903. Dealers and makers excluded.

1st. Red Oak, b.g., 15.2½, 4 years; Red Prince, b. g, 15.3, 4 years. Exhibitor, Mrs. F. M. Fraser, Toronto Junction.
2nd. Gloria, br. m., 15.3, 4 years: Gloaming, br. m., 15.3, 5 years. Exhibitor, G. A. Case, Toronto.
3rd. Lady Elgin, b. m., 15.2, 4 years; Lady Norfolk, b. m, 15.2, 4 years. Exhibitor, Mrs. A. Beck, London.

Pair of Horses not under 15 hands 2 inches, shown before a brougham. Horses and brougham to have been owned by exhibitor since February 1st, 1903.

1st. Red Oak, b. g., 15.2½, 4 years; Red Prince, b. g., 15.3, 4 years. Exhibitor, Mrs. F. M. Fraser, Toronto Junction.
2nd. Lady Elgin, b.m., 15.2, 4 years; Lady Norfolk, b. m., 15.2, 4 years. Exhibitor, Mrs. A Beck, London.
3rd. Mohawk, b. g, 15.3, 6 years; War Eagle, b. g., 15.3, 6 years. Exhibitor, G. Gooderham, Toronto.

Pair of Horses to Victoria or Cabriolet, to have been the property of Exhibitor since April 1st, 1903. Horses to count 60 per cent., appointments 40 per cent. Dealers and makers excluded.

1st. Mohawk, b. g., 15.3, 6 years; War Eagle, b g , 15.3, 6 years. Exhibitor, G. Gooderham, Toronto.
2nd. Flyer, br. g., 15.3, 6 years; On Time, br. g , 15 2½, 6 years. Exhibitor, Mrs. F. M. Fraser, Toronto Junction.

Pair of Horses to Victoria or Cabriolet. To have been the property of exhibitor since February 1st, 1903. Horse to count 60 per cent., appointments 40 per cent. Dealers and makers excluded.

1st. Mohawk, b. g , 15.3, 6 years; War Eagle, b. g., 15.3, 6 years. Exhibitor, G. Gooderham, Toronto.
2nd. Flyer, br. g , 15.3, 6 years; On Time, br. g., 15 2½, 6 years. Exhibitor, Mrs. F. M. Fraser, Toronto Junction.

Champion Harness Horse.

1st. Creighton, b. g., 15.1½, 6 years. Exhibitor, G. Pepper, Toronto.

Tandems.

1st. Creighton, b. g., 15.1½, 6 years; Mate, b. g., 15.2½. Exhibitor, G. Pepper, Toronto.
2nd. Judge, ch. g., 15.0¾, 5 years; Jury, ch. g., 15.0¾, 5 years. Exhibitor, H. C. Cox, Toronto.
3rd. Flyer, br. g., 15.3, 6 years; On Time, br. g., 15.2½, 6 years. Exhibitor, Mrs. F. M. Fraser, Toronto Junction.

FOUR-IN-HANDS.

1st. Exhibitor, A. Yeager, Simcoe.
2nd. Exhibitor, P. Maher, Toronto.
3rd. Exhibitor, Mrs. F. M. Fraser, Toronto Jct.

SADDLE HORSES.

Best Saddle and Harness Horse, mare or gelding, 15 hands and over, to be shown in harness and under saddle.

JUDGES: Col. Lessard, Toronto; G. B. Hulme, New York.

1st. My Surprise, ch. g., 15.1½, 6 yrs. Exhibitor, Miss Pepper, Toronto.
2nd. Waubaun, blk. g., 15 3, 6 yrs. Exhibitor, Mrs. Gerken, New York.
3rd. Falkirk, b. g., 15.3½, 7 yrs. Exhibitor, Mrs. A. Beck, London.

Mare or Gelding over 14 hands 2 inches and not exceeding 15 hands 2 inches.

1st. My Surprise, ch g., 15.1½, 6 yrs. Exhibitor, Miss Pepper, Toronto.
2nd. Glendale, ch. g., 25.1½, 4 yrs. Exhibitors, Kidd Bros, Listowel.
3rd. Primrose, ch. m., 15.2, 5 yrs. Exhibitor, Miss Murray, Toronto.

Mare or Gelding over 15 hands 2 inches, up to carrying from 150 to 160 lbs.

1st. Falkirk, b. g., 15.3½, 7 yrs. Exhibitor, Mrs. A. Beck, London.
2nd. Waubaun, blk.g., 15.3, 6 yrs. Exhibitor, Mrs. Gerken, New York.
3rd. Blk. Knight, blk. g., 16, 4 yrs. Exhibitor, A. S. Chisholm, Oakville.

Mare or Gelding over 15 hands 2 inches, up to carrying 190 lbs. and over.

1st. Senator, ch. g., 16.1, 6 yrs. Exhibitor, G. Pepper, Toronto.
2nd. Westminster Belle, ch. m., 16.1, 8 yrs. Exhibitor, Mrs A. Beck, London.
3rd. Connaught, ch. g., 16, 5 yrs. Exhibitor, A. Beck, London.

Lady's Saddle Horse not under 14 hands 3 inches, to be ridden by ladies.

1st. Falkirk, b. g , 15.3½, 7 yrs. Exhibitor, Mrs. A. Beck, London.
2nd. My Surprise, ch. g., 15.1½, 6 yrs. Exhibitor, Miss Pepper, Toronto.
3rd. Carmen, ch. m., 15.3, 5 yrs. Exhibitor, G. A. Case, Toronto.

Champion Saddle Horse.

1st. My Surprise, ch. g., 15.1½, 6 yrs. Exhibitor, Miss Pepper, Toronto.

HUNTERS AND JUMPERS.

Qualified Hunters, heavyweight, up to carrying 190 lbs. and over. To carry at least 180 lbs.

1st. Rupert, blk. g., 16.2, 7 yrs. Exhibitor, G. Pepper, Toronto.
2nd. Dublin, ch. g., 16.1, 6 yrs. Exhibitor, A. Beck, London.
3rd. Cockatoo, br. g., 16, aged. Exhibitor, G. W. Beardmore, Toronto.

Qualified Hunters, middleweight, up to carrying from 165 lbs. to 190 lbs. To carry at least 165 lbs.

1st. Myopia, br. g., 15.3, aged. Exhibitor, G. Pepper, Toronto.
2nd. Falkirk, b. g., 15 3½, 7 yrs. Exhibitor, Mrs. A. Beck, London.
3rd. Kingfull, b. g., 16, 6 yrs. Exhibitor, G. Pepper, Toronto.

Green Hunters, heavyweight, up to carrying 190 lbs. and over. To carry at least 180 lbs.

1st. Intruder, dun g., 16. Exhibitors, Crow & Murray, Toronto.
2nd. Wasson, br. g., 16.1, 5 yrs. Exhibitor, G. Pepper, Toronto.
3rd. Marconi, b. g., 15.3, 5 yrs. Exhibitors, Kidd Bros., Listowel.

Green Hunters, middleweight, up to carrying from 165 to 190 lbs. To carry at least 165 lbs.

1st. Glenarm, ch. g., 16, 6 yrs. Exhibitors, Crow & Murray, Toronto.
2nd. Chateau 2nd, b. g., 15.3, 4 yrs. Exhibitor, A. Beck, London.
3rd. Sporting Lady, br. m., 15.2, 6 yrs. Exhibitors, Crow & Murray, Toronto.

Lightweight Hunters. Open to both green and qualified horses, up to carrying from 150 to 165 lbs. To carry at least 150 lbs.

1st. Dunkirk, b. g., 15.3, 6 yrs. Exhibitor, A. Beck, London.
2nd. Myopia, br. g., 15.3, aged. Exhibitor, G. Pepper, Toronto.
3rd. My Fellow, ch. g., 16, 7 yrs. Exhibitor, Mrs. A. Beck, London.

Jumping. Open to all. Performances over fences only to count.

1st. Sporting Lady, br. m., 15.2, 6 yrs. Exhibitors, Crow & Murray, Toronto.
2nd. Dunkirk, b. g., 15.3, 6 yrs. Exhibitor, A. Beck, London.
3rd. Coquette, b. m., 15.3, 5 yrs. Exhibitors, Crowe & Murray, Toronto.

Best performances over 6 jumps ; 2 at 4 feet, 2 at 4 feet 6 inches ; carrying not less than 140 lbs.

1st. Dunkirk, b. g., 15.3, 6 yrs. Exhibitor, A. Beck, London.
2nd. Rupert, blk. g., 16.2, 7 yrs. Exhibitor, G. Pepper, Toronto.
3rd. Coquette, b. m., 15.3, 5 yrs. Exhibitors, Crow & Murray, Toronto.

Corinthian Class. Open to Hunters. Horses to be ridden by members of some recognized Hunt.

1st. Dunkirk, b. g., 15.3, 6 yrs. Exhibitor, A. Beck, London.
2nd. Falkirk, b. g., 15.3½, 7 yrs. Exhibitor, Mrs. A. Beck, London.
3rd. Pearl, b. m., 16, aged. Exhibitor, G. Pepper, Toronto.

Corinthian Class. Open to horses owned by members of a recognized hunt and ridden by owner. Dealers excluded.

1st. Cockatoo, br. g., 16, aged. Exhibitor, G. W. Beardmore, Toronto.

Toronto Hunt Plate. Open to horses owned and ridden by members of the Toronto Hunt Club.

1st. Marengo, gr. g., 16, 5 yrs. Exhibitors, Crow & Murray, Toronto.
2nd. Carmen, ch. m., 15.3, 5 yrs. Exhibitor, G. A. Case, Toronto.

Ladies' Hunters, up to carrying 150 lbs., to be owned by a member of a recognized Hunt and to be ridden by a lady.

1st. Coquette, b. m., 15.3, 5 yrs. Exhibitors, Crow & Murray, Toronto.
2nd. Falkirk, b. g., 15.3½, 7 yrs. Exhibitor, Mrs. A. Beck, London.

Champion Hunter Class.

1st. Rupert, blk. g., 16.2, 7 yrs. Exhibitor, G. Pepper, Toronto.

ROADSTERS.

Mare or Gelding under 15 hands 3 inches.

1st. Lady Crescens, ch. m., 15.1½ 5 yrs. Exhibitor, Miss Wilks, Galt.
2nd. Susette, blk. m., 7 yrs. Exhibitor, A. W. Hamilton, Sunderland.
3rd. Wilkie Ross, gr. g., 15.1, 8 yrs. Exhibitor, J. McFarren, Toronto.

Mare or Gelding 15 hands 3 inches and over.

1st. Black Knight, blk. g., 16, 6 yrs. Exhibitors, McGregor & Edwards, Toronto.
2nd. Prince Royal, br. g., 15.3½, 5 yrs. Exhibitors, Crow & Murray, Toronto.
3rd. Darkness, blk. m., 15.3, 7 yrs. Exhibitor, S. McBride, Toronto.

Pair of Roadster Mares or Geldings.

1st. Wild Duchess, blk. m., 15.1½, 5 yrs. ; Wild Vick, blk. m., 15.1½, 4 yrs. Exhibitor, T. Merry, Toronto;
2nd. Victoria, b. m., 15 2½, 5 yrs. ; Victor, b. g., 15.2½, 5 yrs. Exhibitor, W. P. Caven, Toronto.
3rd. Lulu, ch. m. ; Lizzie, ch. m. Exhibitor, Dent Dalton, Delhi.

Best Roadster, any age.

1st. Lady Crescens, ch. m., 15 1½, 5 yrs. Exhibitor, Miss Wilks, Galt.

Pacers, under 15 hands 3 inches.

1st. Harry, b. g., 15.2½, 7 yrs. Exhibitor, R. B. Moore, Waterloo.
2nd. Honest Billy, ch. g., 15.2½, 7 yrs. Exhibitor, T. Bartrem, Toronto.
3rd. Raven, blk. g., 15.2½, aged. Exhibitor, A. Lucas, Toronto.

Pacers, 15 hands 3 inches and over.

1st. Montenegro, blk. g., 15.3, 9 yrs. Exhibitor, F. Moran, Toronto.
2nd. Little Boy, ch. g., 15.3¼, 4 yrs. Exhibitors, Snow & Dennis, Toronto.
3rd. Richard A., b. g., 15.3½, 7 yrs. Exhibitor, F. Maher, Toronto.

Ponies.

Pony in Harness, 12 hands 1 inch and under.

1st. Ginger, ch. g., 7 yrs. Exhibitor, D. Massey, Toronto.
2nd. Billy G., b g., 11.1¼, 7 yrs. Exhibitor, J. C. Anderson, Toronto.
3rd. Dorsey, piebald s., 11.2, 6 yrs. Exhibitor, Jos. Harrison, Brampton.

Pony in Harness, over 12 hands 1 inch and not exceeding 13 hands 1 inch.

1st. Margaret, b. m , 13, 7 yrs. Exhibitor, Miss E. Ames, Toronto.
2nd. Duke of York, br. s., 13.1, 4 yrs. Exhibitor, H. M. Robinson, Toronto.
3rd. Baby Willard, b. s., 13.0½, 3 yrs. Exhibitor, W. J. Mills, Toronto.

Pony in Harness over 13.1 and not exceeding 14.1 hands.

1st. Princess Pelly, b. m., 14, 5 yrs. Exhibitor, A. Taylor, Toronto.
2nd. Lady Edie, ch. m., 14.1½, 8 yrs. Exhibitor, A. Hawes, Toronto.
3rd. Daisy, b. m., 14.1. 6 yrs. Exhibitor, C. L. Bickford, Toronto.

Best Pony Stallion not exceeding 14 hands 1 inch, shown on Line.

1st. Duke of York, brown, 13.1, 4 yrs. Exhibitor, H. M. Robinson, Toronto.
2nd. Dorsey, piebald, 11.2, 6 yrs. Exhibitor, Jos. Harrison, Brampton.
3rd. Black Prince, blk , 12 yrs. Exhibitor, D. Robertson, Toronto.

Ponies, 14 hands 1 inch and under, to be ridden by a boy or girl under 15 years of age.

1st. Margaret, b. m., 13, 7 yrs. Exhibitor, Miss E. Ames, Toronto.
2nd. Goo Goo, b. g , 13.3, 8 yrs. Exhibitor, Major Forester, Stanley Barracks.
3rd. Princess Pelly, b. m.. 14, 5 yrs. Exhibitor, A. Taylor, Toronto.

Polo Ponies.

Polo Ponies, up to carrying 155 lbs.

1st. Goo Goo, b. g., 13.3, 5 yrs. Exhibitor, Major Forester, Stanley Barracks, Toronto.

Polo Ponies, up to carrying 185 lbs.

1st. Satine, roan m., 14.1, 6 yrs. Exhibitor, Major Williams, Stanley Barracks.

Champion Class.—Best Polo Pony, up to carrying 160 lbs.

1st. Satine, roan m., 14.1, 6 yrs. Exhibitor, Major Williams, Stanley Barracks.

Best string of two Polo Ponies, up to carrying 185 lbs., belonging to one member of a recognized Canadian Polo Club.

1st. Satine, roan m., 14.1, 6 yrs.; Fly, b. m., 14.1½, 5 yrs. Exhibitor, Major Williams, Stanley Barracks.

Best string of two Polo Ponies, up to carrying 155 lbs., belonging to one member of a recognized Canadian Polo Club.

1st. T. K., b. g., 14.1, 7 yrs.; Honest Injun, b. g., 14.1, 7 yrs. Exhibitor, Major Forester, Stanley Barracks.

Best performances over jumps for Ponies not exceeding 14 hands 1 inch, open to all classes.

1st. Tony, roan g., 14, 5 yrs. Exhibitor, Ralph Jenkins, Todmorden.
2nd. Bendigo, piebald g., 14.1, 5 yrs. Exhibitor, Major Forester, Stanley Barracks.
3rd. Sparrow, b. g., 14.1, 5 yrs. Exhibitor, James Hawes, Toronto.

Best Pony, of any size or type, not exceeding 14 hands 2 inches; to be shown in harness and under saddle.

1st. Canadian Ensign, blk. g., 14.0½, 6 yrs. Exhibitor, Major A. B. Lee, Toronto.

Best and best appointed pair of Livery Horses shown to Landau.

1st. Exhibitor, P. Maher, Toronto.
2nd. " " "

Mare or Gelding, to be shown in Single Harness and to delivery wagon, as actually used in local deliveries.

1st. Neapolitan, b. g., 16.1, 4 yrs. Exhibitor, City Dairy Co., Toronto.
2nd. Aggie M., gr. m., 16, 7 yrs. Exhibitor, Robt. Simpson Co., Toronto.

Mare or Gelding, to be shown in Single Harness and to butcher's cart, as actually used by owner in local deliveries.

1st. Ladysmith, ch. m., 15.2, 8 yrs. Exhibitor, J. W. Holman, Toronto.
2nd. Brownie, br. g., 15.2, 7 yrs. Exhibitor, Geo. Clayton, Toronto.

Best performance of Professional Private Coachman, in Livery, with Pair and Carriage.

1st. Jas. Bredin, coachman for G. H. Hees, Toronto.
2nd. W. Douglas, coachman for W. D. Beardmore, Toronto.
3rd T. Maclean, coachman for L. C. Strother, Toronto.

Best 4-year-old Canadian-bred Gelding or Mare, suitable for riding or cavalry purposes, not less than 15 hands and not over 15 hands 3 inches; to be sired by a thoroughbred stallion, to be approved by the judges. All horses entered eligible for sale at $225, and to be purchased at that price by any one desirous. First and second prize-winners to be sold by auction after awards are made.

1st. Aylmer, ch. g., 15.2½, 4 yrs. Exhibitor, A. Beck, London.
2nd. Conceit, b. m., 15.2½, 4 yrs. Exhibitor, T. C. Pattison, Toronto.

Horse and Runabout, to be driven by owner.

1st. Judge, ch. g., 15.0¾, 5 yrs. Exhibitor, H. C. Cox, Toronto.

Mare or Gelding, suitable for a lady to drive, to be driven by a lady.

1st. Sparkle, b. m., 14.3, 5 yrs. Exhibitor, Mrs. A. Beck, London.
2nd. Judge, ch g., 15.0¾, 5 yrs. Exhibitor, H. C. Cox, Toronto.

Pair of Horses to T Cart, Mail, Demi-Mail, Stanhope or Spider Phaeton. Dealers excluded.

1st. Judge, ch. g., 15.0¾, 5 yrs.; Jury, ch. g., 15.0¾, 5 yrs. Exhibitor, A. C. Cox, Toronto.
2nd. Gloria, br. m., 15.3, 4 yrs.; Gloaming, br. m., 15.3, 5 yrs. Exhibitor, G. A. Case, Toronto.

ANNUAL REPORT

OF THE

FARMERS' INSTITUTES

OF THE

PROVINCE OF ONTARIO

1902.

PART III. MEETINGS AND STATISTICS.

(*PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO.*)

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO
PRINTED AND PUBLISHED BY L. K. CAMERON,
Printer to the King's Most Excellent Majesty.
1902.

WARWICK BRO'S & RUTTER, Printers,
TORONTO.

FARMERS' INSTITUTES OF ONTARIO.

1902-1903.

ANNOUNCEMENT OF SUPERINTENDENT.

In this volume will be found a history of Farmers' Institute work in Ontario, as carried out last season. In addition we also outline the work to be pursued during the coming winter. For the convenience of the reader we have divided the subject matter as follows :

Last Year's Work. This shows the total membership in all Institutes, the number of meetings held, the names of those districts showing the largest membership, the greatest attendance at meetings and the greatest number present at those meetings. We also add a short list of those Institutes that have not taken the greatest advantage of their opportunities.

The Coming Season. The number of meetings to be held during the coming winter will show an increase over any previous year. A few changes have been made in the arrangement. For instance North Grey, Centre Grey, Centre Bruce, West Huron and East Huron asked this year that their Supplementary meetings, formerly held in February, be transferred to December, hoping thereby to escape the stormy weather which is so liable to occur in that part of the Province during the late winter months. It will also be noticed that many Institutes are spreading out and covering more territory than formerly. These are the progressive ones. Peel held last year 13 meetings, Halton 18, South Waterloo 18, North Hastings 19, etc. The membership of these Institutes it will be noticed is the largest in the Province, showing that the policy of expansion is a most excellent one. Those Institutes which merely carry out the actual requirements of the law are just about in the same position that they were when first formed.

Speakers' Subjects. These have been revised to suit the requirements of the times. Institute officers should choose in advance the subjects to be treated and advertise the same plainly on the large bills, as well as on the hand bills, so that members and others before they leave home, may know just what subjects will be discussed.

Reserve Speakers. The names of some of our most acceptable speakers will be found on the reserve list. If any Institute decides to hold any extra meetings they may secure the services of any of these delegates by direct correspondence with the speakers themselves, or through the Superintendent.

Institute Officers. We are pleased to see so few changes in the officers this year. When good men have proven their worth as efficient officers it is a mistake to change them too often. The Secretary, who must really be executive head of the local work, should not be changed except for some special reason. Constant changes in this office make much unnecessary correspondence with the Superintendent's office, and breaking in new men each year greatly retards the work of the Institutes.

Statistics. This is the last feature of the volume, and we would ask that Institute officers, members and directors, scan it closely. It tells in a concise form the history of the work for the year ending June 30th, 1902.

G. C. Creelman.

REPORT OF LOCAL FARMERS' INSTITUTES

No.	Institute district.	Membership December, 1901.	Membership to June, 1902.	No. of meetings held.	Total attendance.	No. of papers read or addresses delivered.	Receipts.				
							Cash on hand per last report.	Members' fees.	Donations.	Grants.	Receipts from conventions.
							$ c.	$ c.	$ c.	$ c.	$ c.
1	Addington	78	79	5	739	24	23 07	19 75	.....	50 00	.....
2	Algoma, Centre	92	117	4	240	23	47 91	29 50	..	50 00	.....
3	Algoma, East	130	131	8	501	27	26 84	30 50	.....	25 00	1 41
4	Amherst Island	50	57	5	888	13	71 09	14 25	.....	75 00	.....
5	Brant, North	134	68	5	714	22	3 72	31 50	.....	50 00	.....
6	Brant, South	87	303	7	1,516	33	90 34	75 00	...	50 00	.....
7	Brockville	189	164	7	1,010	26	6 78	41 00	.....	50 00	.....
8	Bruce, Centre	140	149	7	1,635	21	187 78	34 75	.....	50 00	.....
9	Bruce, North	172	166	7	520	19	181 82	43 75	.....	50 00	.....
10	Bruce, South	219	259	10	5,375	48	262 60	51 00	.....	50 00	.....
11	Bruce, West	283	312	9	1,865	49	128 69	76 50	.....	50 00	...
12	Carleton	78	134	5	1,320	20	49 07	19 75	.....	50 00	.....
13	Cornwall	59	60	5	780	21	.....	15 00	12 50	37 50	.....
14	Dufferin	293	334	13	1,900	81	256 06	86 50	.....	50 00	.....
15	Dundas	239	188	5	1,601	31	196 20	46 25	.....	49 75	.
16	Durham, East	151	211	9	1,470	26	71 62	51 25	.....	50 00	.....
17	Durham, West	199	231	11	1,376	29	82 18	57 25	.....	50 00	... ..
18	Elgin, East	251	243	6	770	19	89 81	54 00	...	50 00	.. ..
19	Elgin, West	183	180	7	840	35	26 89	42 75	.....	50 00	.....
20	Essex, North	99	111	7	635	36	....	27 75	.....	50 00	.. .
21	Essex, South	208	271	11	2,210	51	59 08	67 75	.....	50 00	....
22	Frontenac	110	97	7	808	19	67 98	25 75	.....	50 00	.....
23	Glengarry	173	221	6	1,765	25	.....	55 00	4 73	50 00	...
24	Grenville, South	131	168	7	1,062	36	54 15	41 25	.....	50 00	.....
25	Grey, Centre	157	208	7	1,242	30	37 16	49 95	.....	50 00	.....
26	Grey, North	244	259	8	939	35	76 34	64 50	....	50 00	. ..
27	Grey, South	272	278	7	1,860	25	313 72	72 50	....	50 00	1 50
28	Haldimand	361	383	8	1,588	43	307 16	90 25	..	50 00	....
29	Halton	755	840	18	5,590	82	146 64	215 00	...	50 00	...
30	Hastings, East	138	220	7	1,385	27	28 57	54 75	10 00	50 00	.....
31	Hastings, North	582	590	19	3 500	78	02	146 50	....	50 00	.....
32	Hastings, West	122	146	7	1,982	35	11 76	36 75	6 24	50 00	..
33	Huron, East	362	567	12	3,221	62	85 50	141 25	....	50 00	100 00
34	Huron, South	238	205	5	1,235	24	152 19	49 50	...	50 00	15 15
35	Huron, West	568	324	14	2 415	93	137 09	82 00	.....	50 00	.....
36	Kent, East	227	296	10	1,460	29	17 43	71 50	25 00	50 00	.. ..
37	Kent, West	212	242	10	1,607	48	96 11	59 75	...	50 00	.....
38	Lambton, East	203	268	8	1,550	58	119 15	66 75	.....	50 00	.....
39	Lambton, West	406	863	13	1,315	67	127 11	82 25	.....	50 00	... .
40	Lanark, North	339	218	4	855	9	16 37	51 50	.....	55 00	23 20
41	Lanark, South	175	159	8	1,715	41	..	35 50	....	55 00	.....
42	Leeds N. & Grenville N.	137	126	9	1,3 0	17	77	31 50	....	50 00	.....
43	Leeds, South	198	132	5	927	25	..	37 00	.....	50 00	.....
44	Lennox	122	153	6	760	27	46 99	38 25	..	50 00	.....
45	Lincoln	270	271	8	2,070	36	114 15	67 50	.....	55 00	.....
46	Manitoulin, East	158	144	8	802	14	65 80	34 25	.....	25 00	.....
47	Manitoulin, West	...	103	2	125	....	.	17 25	....	....	.....
48	Middlesex, East	354	415	13	2,411	52	172 16	104 00	.....	50 00	.....
49	Middlesex, North	367	394	12	2,612	60	375 92	99 00	.....	75 00	.....
50	Middlesex, West	200	223	9	1,380	41	60 84	56 00	.....	50 00	.....
51	Monck	204	215	8	1,415	30	26 12	51 75	.....	45 00	.....
52	Muskoka, Centre	51	81	5	352	11	37 50	20 25	.....	25 00	....
53	Port Carling and Bala	28	36	4	250	8	.. .	9 75	.....	...	....
54	Muskoka, North	202	161	7	385	57		50 50	.....	25 00	55 30
55	Muskoka, South	111	119	6	245	21	72 63	31 50	.....	25 00	.....
56	Nipissing, West	70	48	6	308	15	16 37	12 00	.....	25 00	.....
57	Norfolk, North	378	383	9	2,317	53	43 67	96 00	.....	50 00	.....

FOR YEAR ENDING 30TH JUNE, 1902.

Receipts.—*Con.*				Expenditure.											
Receipts from excursions.	Miscellaneous.	Balance due treasurer.	Total receipts.	Due treasurer per last report.	Expense for meetings.	Secretary's salary, etc.	Postage and stationery.	Printing.	Advertising.	Lecturers' expenses.	Lecturers' allowance.	Periodicals for members.	Miscellaneous.	Balance on hand.	No
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
.....	.....	.....	92 82	.....	7 00	20 00	7 44	8 00	1 50	13 18	.....	....	8 00	27 70	1
.....	....	.....	127 41	...	2 25	16 00	1 75	8 75	2 50	12 00	.....	.	3 80	80 36	2
.....	.....	.....	83 75	.....	11 90	35 30	1 33	.....	6 00	9 60	.....	...	... 75	18 87	3
.... .	.....	.....	160 34	.....	34 25	13 50	2 70	6 36	10 26	.... .	.....	17 21	.	76 06	4
.....	....	....	85 22	....	39 00	14 00	1 50	9 25	....	12 35	.....	....	5 00	4 12	5
.....	.....	.....	215 34	....		25 00	4 23	13 15	3 00	18 17	9 15	...	40 25	102 39	6
.....	.....	.....	97 78	....	15 00	15 00	7 86	13 6	2 00	25 83	.....	.....	11 93	6 51	7
99 02	.....	....	371 55	.....	48 10	36 55	4 25	44 10	...	35 55	.....	....	7 00	196 00	8
50 00	27 52	....	353 09	.....	5 85	15 00	7 26	13 50	3 00	22 07	.....	140 47	5 50	140 44	9
81 70	..	.....	445 30	.....	44 20	60 00	12 08	38 50	4 15	29 10	.....	.....	18 00	239 27	10
128 50	.....	.....	383 69	....	.....	37 50	8 34	23 50	10 50	6 50	5 00	59 62	83 78	149 00	11
.....	...	.	118 82	....	11 40	25 00	13 68	16 43	.....	....	.....	.....	3 85	48 46	12
.....	.....	1 39	66 39	1 74	3 00	33 00	2 50	10 00	16 15	.				.....	13
197 70	6 78	....	597 04	....	...	50 00	6 65	27 00	44 00	10 00	34 62	45 75	203 51	175 51	14
.....	6 84	.....	299 04	....	10 00	30 00	4 38	1 00	31 00	13 84	.....	.....	.. .	208 82	15
.....	...	.....	172 27	.....	56 10	47 00	11 40	28 50	.....		.....	.....	16 00	13 27	16
.....	1 05	....	190 48	.....	7 50	25 00	.....		46 10	24 85	...	...	15 15	71 88	17
.....	1 43	....	195 24	.....	12 25	25 00	1 82	11 75	10 20	7 35	.....	....	22 00	104 87	18
.....	....	.....	119 64	.....	5 50	25 00	16 00	19 20	2 25	20 30	...	.. ..	25	31 14	19
.. ...	.....	4 93	82 68	11 63	13 45	15 00	1 00	12 00	2 00	27 60	...	.. ...	.....	....	20
.....	...	...	176 83	.....	4 25	25 00	4 00	17 50		23 48	.....	....	16 95	85 65	21
.....	25		143 98	.....	7 00	20 00	4 32	15 85	23 90	18 92	....	....	...	53 99	22
.....	.	36 87	146 60	55 10	31 05	25 00	2 00		9 00	24 45	...	.....			23
.....	2 00	..	157 40	.....	9 00	50 60	6 66	18 50	.	38 48	...	.....	4 15	30 01	24
83 51	.....	....	220 62	.....	40 80	32 40	9 63	15 20	3 75	24 00	.....	.....	31 45	60 39	25
80 01	7 38	....	278 23	. ....	37 90	76 60	14 50	5 60	1 50	16 20	.....	16 40	9 28	100 25	26
194 80	39 00	.....	671 52	....	57 60	135 95	7 15	21 75	26 35	18 59	...	61 80	24 6	314 68	27
.....	.....	.....	447 41	....	24 50	71 50	26 10	33 97		21 40	....	.....	5 50	264 44	28
156 00	.....	.....	567 64	.....	125 75	50 00	13 42	72 55	2 00	68 39	.....	108 45	51 11	75 97	29
.....	2 00	....	145 32	.....	32 03	25 00	14 79	16 50	1 00		.....	.....	15 20	40 80	30
.....	6 00	3 37	2 5 89		31 85	65 00	6 29	33 70		69 05	.....	....		...	31
.....	4 00	.....	108 75	.....	14 50	30 00	4 00	15 70	5 50	9 00	. .	....	18 00	12 05	32
.....	1 60	...	378 35	. ..	97 90	33 50	9 72	26 00	6 50	80 65	.....	....	15 (0	109 08	33
.....	4 89	....	271 73	....	49 80	34 85	4 55	10 40	3 25	.....	....	....	5 00	163 88	34
150 00	.....	.....	419 09	.....	53 75	63 90	23 97	52 84	17 75	85 49	..	..	24 05	97 34	35
.....	.	.....	163 93	.....	32 50	20 00	23 00	18 60	13 00	36 75	.....	...	3 63	16 45	36
.....	.....	.. ...	205 86	.	31 28	48 65	7 40	8 00	6 75	7 34	.....	.....	5 00	91 44	37
44 57	.....	....	280 47	...	41 65	66 70	3 30	5 25	9 75	20 45	....	..	14 65	118 72	38
50 70	....	.....	310 06	.....	66 45	30 95	5 55	28 88	....	30 95	...	....	5 55	141 73	39
.....	.....	.....	146 07	....	34 85	55 00	3 25	20 95	16 50	..	.....	.....	.	15 52	40
.....	....	10 07	100 57	7 89	26 95	25 00	2 22		32 00	6 51	....	..		.. .	41
.....	38 38	.....	120 65	.....	28 35	10 00	2 00	23 50	16 50	27 30	.....	.....	13 00	. .	42
.....	.	4 97	91 97	3 76	48 71	15 00	4 00	12 00	....	..	....	...	8 50		43
... ..	... ..	.....	135 24	.....	10 45	22 50	3 50	14 50		20 00	....	..		64 29	44
.....	.....	.....	236 65	.....	8 50	30 00	7 50	4 25	31 50	41 25	...	...	8 00	105 65	45
....	....	.. ..	125 05	.....	2 60	12 00	1 00	8 50	....	36 25	.....	13 20	....	51 50	46
....	.....	.....	17 25	.....	3 64		1 75	1 50		5 50	.. ..		25	4 61	47
130 55	6 25	.....	462 96	.....	36 50	25 00	9 98	29 50	14 22	93 71	....	13 55	64 90	75 60	48
65 65	12 54	.....	628 11	.....	23 50	59 25	9 05	17 25	41 15	28 80	....	.....	5 77	143 36	49
.....	.....	....	166 84	...	31 90	38 00	2 77	75	13 75	51 95	....	.....	5 15	22 57	50
.....	.....	.....	122 87	..	32 80	27 00	7 29	13 75	8 50	25 85	....	.....	5 00	2 68	51
.....	....	....	82 75	.. ..	12 50	12 00	3 31	9 75		2 25	....	.....	14 05	28 89	52
.....	.. ..	.....	9 75	1 76	....		2 75	4 50		....	..	.....	51	23	53
. ....	.....	.....	130 80	6 46	35 88	31 25	4 93	10 25	6 00	.. ..	.....	....	9 08	26 95	54
.....	.. ..	....	129 13	.....	15 70	15 00	5 00	17 00	..	.....	.....	.....	42 27	34 16	55
.....	.....	.....	53 37	.....	8 00	25 55	2 00	4 25	4 75	....	.....	....	....	8 82	56
57 00	.....	.....	246 67	.....	41 40	50 00	14 01	30 45	5 75	15 20	.....	....	1 10 50	79 86	57

REPORTS OF LOCAL

No.	Institute District.	Membership, December, 1901.	Membership to June, 1902.	No. of Meetings held.	Total attendance.	No. of papers read or addresses delivered.	Receipts.				
							Cash on hand as per last Report.	Members' fees.	Donations.	Grants.	Receipts from conventions.
							$ c.	$ c.	$ c.	$ c.	$ c.
58	Norfolk, South	219	255	9	1,225	28	.....	57 00	.....	50 00	.....
59	Northumberland, East	305	284	13	3,699	60	46 03	72 00	.....	50 00	53 48
60	Northumberland, West	110	99	7	1,260	19	44 95	25 50	.....	50 00	.....
61	Ontario, North	411	258	12	1,675	58	54 26	59 90	.....	50 00	.....
62	Ontario, South	386	441	18	1,868	68	85 65	110 00	.....	50 00	.....
63	Oxford, North	315	216	7	1,255	26	26 81	48 75	....	50 00	.....
64	Oxford, South	332	445	9	2,005	67	77 07	115 75	.....	50 00	.....
65	Parry Sound, East	200	232	10	1,097	36	39 65	58 75	.....	42 00	.....
66	Parry Sound, West	106	125	9	348	45	21 46	31 50	....	35 00	.....
67	Peel	525	669	13	2,775	72	242 08	167 00	....	50 00	....
68	Perth, North	362	315	7	1,965	33	249 93	78 50	.....	50 00	.....
69	Perth, South	197	309	8	2,120	44	122 74	74 25	....	50 00	.....
70	Peterboro' East	112	176	7	2,250	54	70 69	40 00	..	50 00	.....
71	Peterboro' West	118	188	9	1,436	43	71 87	47 00	.....	50 00	.....
72	Prescott	90	130	5	595	23	24 94	23 50	.....	50 00	11 75
73	Prince Edward	230	261	10	1,474	34	16 05	58 50	....	50 00	.....
74	Renfrew, North	81	106	5	869	8	8 19	13 00	.....	50 00	.....
75	Renfrew, South	132	108	7	1,550	36	98 83	27 00	....	50 00	.....
76	Russell	121	103	5	990	20	37 36	21 75	.....	50 00	.....
77	Simcoe, Centre	150	215	10	2,240	18	190 20	49 00	.....	50 00	.....
78	Simcoe, East	198	185	4	981	16	5 45	39 00	.....	50 00	.....
79	Simcoe, South	134	256	7	1,145	21	68	62 50	.....	50 00	.....
80	Simcoe, West	172	225	7	1,515	46	91 36	60 70	.....	50 00	.....
81	Stormont	154	142	6	1,350	27	.....	32 25	.....	50 00	.....
82	St. Joseph Island	106	148	7	2,373	26	52 24	34 75	.	50 00	.....
83	Victoria, East	176	274	7	2,340	36	....	43 00	4 00	63 00	.....
84	Victoria, West	154	139	4	665	29	24 00	47 55	.....	50 00	.....
85	Waterloo, North	338	430	10	3,270	53	202 34	106 50	.....	50 00	.....
86	Waterloo, South	539	732	18	3,746	127	258 12	179 50	.....	50 00	.....
87	Welland	191	214	7	714	38	124 98	53 00	..	50 00	.....
88	Wellington, Centre	442	425	8	2,295	32	63 05	122 25	6 00	50 00	....
89	Wellington, East	244	217	7	955	37	.....	54 75	....	50 00	25 15
90	Wellington, South	1,142	230	7	1,368	14	88 84	278 25	.....	50 00	.....
91	Wellington, West	204	237	4	1,385	20	32 86	67 00	....	50 00	.....
92	Wellington, (Union Br.)	103	141	6	1,275	20	85 38	35 50	.....	.....	.....
93	Wentworth, North	232	310	9	1,950	36	33 26	76 25	....	50 00	....
94	Wentworth, South	252	370	11	2,383	60	143 64	94 75	.....	50 00	.....
95	York, East	179	240	14	1,972	49	134 26	61 25	.....	50 00	.....
96	York, North	120	99	6	391	24	20 87	24 75	....	50 00	.....
97	York, West	227	175	7	765	27	159 56	47 75	.....	50 00	.....
							$	$	$	$	$
	Total 1901-2	21,568	22,948	791	147,642	3,517	7,748	5,865	68	4,587	287
	Total 1900-1	18,258	20,387	730	131,653	3,262					

FARMERS' INSTITUTES.—*Concluded.*

Receipts.				Expenditure.											
Receipts from excursions.	Miscellaneous.	Balance due Treasurer.	Total receipts.	Due Treasurer per last Report.	Expense for meetings.	Secretary's salary etc.	Postage and Stationery.	Printing.	Advertising.	Lecturers' expenses.	Lecturers' allowance.	Periodicals for members.	Miscellaneous.	Balance on hand.	No.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
30 65	.....	1 61	139 26	16 75	6 00	35 00	2 66	24 25	.....	15 90	.....	.....	38 70	.....	58
.....	.....	.....	221 51	.....	34 00	26 00	6 50	.....	36 53	24 45	.....	.....	83 10	10 93	59
.....	.....	.....	120 45	.....	17 00	18 00	4 50	8 50	.....	30 25	.....	.....	.....	42 20	60
372 55	11 30	.....	548 01	.....	68 05	73 75	21 50	49 73	7 60	10 00	.....	.....	46 70	270 68	61
105 20	.....	.....	350 85	.....	46 40	18 10	30 00	42 11	35 50	69 90	.....	.....	11 00	97 84	62
63 75	.....	.....	189 31	.....	5 70	41 10	4 79	67 00	19 60	.....	.....	.....	3 35	47 77	63
75 70	4 70	.....	323 22	.....	60 05	48 00	21 89	4 50	37 60	57 60	.....	.....	49 38	44 20	64
96 80	5 35	.....	242 55	.....	88 00	15 00	9 87	20 40	10 00	.....	.....	.....	31 83	67 45	65
.....	.....	.....	87 96	...	27 00	21 25	5 00	6 50	.....	.....	.....	.....	.....	28 21	66
211 75	16 20	.....	687 03	.....	114 59	75 00	8 17	75 75	...	96 88	...	108 00	15 00	193 64	67
.....	71 75	.....	450 18	.....	20 35	50 25	5 86	14 00	23 81	11 50	19 25	71 75	34 32	199 09	68
127 00	.....	.....	373 99	.....	55 50	20 00	15 00	18 00	22 95	52 20	.....	.....	12 50	177 84	69
.....	.....	.....	160 69	.....	42 68	20 00	2 00	28 25	.....	16 00	.....	.....	11 00	40 76	70
22 10	.....	.....	190 97	.....	24 35	42 00	7 75	35 75	24 95	33 05	.....	.....	25	22 87	71
.....	.....	.....	110 19	.....	8 75	20 00	1 90	14 60	.....	10 24	.....	.....	3 78	50 92	72
.....	45	.....	125 00	.....	8 65	14 15	87	.....	26 00	32 65	.....	.....	.....	42 68	73
.....	.....	.....	71 19	.....	.....	27 00	6 25	6 25	2 00	10 25	.....	.....	.....	19 44	74
62 00	.....	.....	237 83	.....	12 25	32 00	1 90	14 75	20 07	16 85	.....	.....	10 06	129 95	75
.....	.....	.....	109 11	.....	10 00	26 50	5 00	5 75	.....	11 14	.....	.....	.....	50 72	76
.....	5 50	.....	294 70	.....	130 37	37 50	6 15	12 70	3 85	16 10	.....	.....	15 25	72 78	77
171 15	.....	.....	265 60	.....	12 05	46 60	5 63	83 74	.....	.....	.....	.....	5 00	112 58	78
.....	.....	.....	113 18	.....	21 25	21 95	9 62	.....	17 00	28 82	.....	.....	5 55	8 99	79
377 25	.....	.....	579 31	.....	104 05	58 60	14 34	95 55	66 15	10 20	.....	.....	111 80	118 62	80
.....	.....	19 05	101 30	8 98	13 50	35 35	2 50	10 00	.....	30 97	.....	.....	.....	.....	81
.....	03	.....	137 02	.....	8 00	17 50	2 52	7 75	.....	4 00	.....	.....	52 28	44 97	82
23 25	.....	15 11	148 36	22 87	35 40	20 00	9 69	25 50	.....	29 90	.....	.....	5 00	.....	83
.....	.....	.....	121 55	.....	4 80	25 00	8 50	.....	24 00	11 00	.....	20 55	6 50	21 20	84
64 65	.....	.....	423 49	.....	47 85	50 00	10 05	23 60	8 50	24 35	7 50	.....	12 05	239 59	85
168 15	.....	.....	655 77	.....	60 15	179 00	8 45	6 75	62 10	37 17	.....	.....	80 05	222 10	86
.....	.....	.....	227 98	.....	14 05	35 70	5 15	8 10	4 10	32 00	.....	.....	5 80	123 08	87
.....	.....	.....	241 30	.....	30 65	31 63	2 32	26 65	.....	23 39	.....	.....	34 90	91 76	88
.....	...	1 92	131 82	6 35	17 00	31 75	3 25	22 75	.....	24 27	.....	20 25	6 20	.....	89
.....	13 82	...	430 91	.....	12 91	50 00	7 16	19 75	18 70	.....	.....	.....	112 50	209 89	90
140 20	.....	.....	290 06	.....	19 05	15 00	7 95	11 00	55 81	10 70	.....	40 00	62 50	68 05	91
43 45	.....	.....	164 33	.....	22 25	19 20	7 75	12 50	5 25	14 05	.....	.....	6 00	77 33	92
.....	.....	.....	159 51	.....	27 60	30 00	9 77	21 25	5 00	25 55	.....	.....	5 00	35 34	93
.....	1 50	.....	289 89	.....	17 00	50 15	12 20	.....	28 75	53 30	.....	.....	5 00	123 49	94
.....	.....	.....	245 51	.....	42 06	20 00	7 23	.....	38 75	26 83	3 75	.....	17 85	89 04	95
9 75	.....	.....	105 37	.....	10 25	25 00	4 89	17 10	.....	28 46	.....	.....	.....	19 67	96
95 00	.....	.....	352 31	.....	24 00	56 50	6 50	41 25	.....	26 45	.....	.....	35 65	161 96	97
$	8	$	$	$	$	$	$	$	$	$	$	$	$	$	
3,830	299	99	22,783	143	2,842	3,401	706	1,829	1,120	2,193	79	737	1,820	7,913	

ATTENDANCE, MEMBERSHIP, ETC. 1901-1902.

The year ending 30th June, 1902, marks another season of progress in Institute work. We are pleased to report a steady increase in membership and attendance. The membership for the first six months of this year totals 22,948, an increase of more than twenty-five hundred over last year. The number of meetings held was 791, while the attendance is the largest in the history of the work, viz., 147,642.

The Institutes holding the largest number of meetings during the year ending June 30th, 1902, are :

Hastings, N	19	Ontario, N	12
Halton	18	Durham, W	11
Ontario, S	18	Essex, S	11
Waterloo, S	18	Wentworth, S	11
York, E	14	Bruce	10
Huron, W	14	Kent, E	10
Dufferin	13	Kent, W	10
Lambton, W	13	Parry Sound, E	10
Middlesex, E	13	Prince Edward	10
Northumberland, E	13	Simcoe, C	10
Peel	13	Waterloo, N	10
Middlesex, N	12		

The following is a list of the Institutes having the largest attendance at their meetings during the season :—

	No. of Meetings.	Attendance		No. of Meetings.	Attendance
Halton	18	5,590	Wentworth, S	11	2,383
Bruce, S	10	5,375	St. Joseph Is	7	2,373
Waterloo, S	18	3,746	Victoria, E	7	2,340
Northunberland, E	13	3,699	Norfolk, N	9	2,317
Hastings N	19	3,500	Wellington, C	8	2,295
Waterloo, N	10	3,270	Peterboro, E	7	2,250
Huron, E	12	3,221	Simcoe, C	10	2,240
Peel	13	2,775	Essex, S	11	2,210
Middlesex, N	12	2,612	Perth, S	8	2,120
Huron, W	14	2,415	Lincoln	8	2,070
Middlesex, E	13	2,411	Oxford, S	9	2,005

The Institutes having the largest membership to July, 1902, are :—

Halton	840	Haldimand	383
Waterloo, S	732	Norfolk, N	383
Peel	669	Wentworth, S	370
Hastings, N	590	Lambton, W	363
Huron, E	567	Dufferin	334
Oxford, S	445	Huron, W	324
Ontario, S	441	Perth, N	315
Waterloo, N	430	Bruce, W	312
Wellington, C	425	Wentworth, N	310
Middlesex, E	415	Perth, S	309
Middlesex, N	394	Brant, S	303

The following list shows the Institutes having the smallest membership for the year :—

Port Carling and Bala	36	Addington	79
Nipissing West	48	Muskoka, C	81
Amherst Island	57	Frontenac	97
Cornwall	60	Northumberland, W	99
Brant, N	68	York, N	99

REGULAR AND SUPPLEMENTARY MEETINGS AND DELEGATES THEREFOR.

REGULAR MEETINGS.

DIVISION 1. T. H. Mason, Straffordville ; E. C. Drury, Crown Hill.

1	Port Elgin (Town Hall)	W. Bruce	Jan. 6th.
2	Paisley (Town Hall)	C. Bruce	Jan. 7th.
3	Cargill (Foresters' Hall)	S. Bruce	Jan. 8th.
4	Clifford (Town Hall)	Union	Jan. 9th.
5	Lakelet (Temperance Hall)	Union	Jan. 10th.
6	Hepworth (School House)	N. Bruce	Jan. 13th.
7	Wiarton (Town Hall)	N. Bruce	Jan. 14th.
8	Tara (Vandusen's Hall)	W. Bruce	Jan. 15th.
9	Chesley (Town Hall)	C. Bruce	Jan. 16th.
10	Hanover (Telford's Hall)	S. Grey	Jan. 17th.
11	Durham (Town Hall)	S. Grey	Jan. 19th.
12	Wroxeter (Town Hall)	E. Huron	Jan. 20th.
13	Brussels (Town Hall)	E. Huron	Jan. 21st.
14	Harlock	E. Huron	Jan. 22nd.
15	Manley's School House	E. Huron	Jan. 23rd.
16	Murdie's School House	E. Huron	Jan. 24th.
17	Clinton (Town Hall)	W. Huron	Jan. 26th.
18	Dungannon (Temperance Hall)	W. Huron	Jan. 27th.
19	Teeswater (Town Hall)	S. Bruce	Jan. 28th.

DIVISION 2. G. C. Caston, Craighurst ; F. C. Elford, Holmesville.

1	Atwood (Agricultural Hall)	N. Perth	Jan. 6th.
2	Millbank (Town Hall)	N. Perth	Jan. 7th.
3	Mitchell (Town Hall)	S. Perth	Jan. 8th.
4	Exeter (Town Hall)	S. Huron	Jan. 9th.
5	Brucefield (Dixon's Hall)	S. Huron	Jan. 10th.
6	St. Marys (Town Hall)	S. Perth	Jan. 12th.
7	Kintore (Foresters' Hall)	N. Oxford	Jan. 13th.
8	Lambeth	E. Middlesex	Jan. 14th.
9	Ilderton	E. Middlesex	Jan. 15th.
10	Coldstream (Town Hall)	N. Middlesex	Jan. 16th.
11	Adelaide (Town Hall)	N. Middlesex	Jan. 17th.
12	Ailsa Craig (Town Hall)	N. Middlesex	Jan. 19th.
13	Parkhill (Town Hall)	N. Middlesex	Jan. 20th.
14	Thedford	E. Lambton	Jan. 21st.
15	Wyoming (Temperance Hall)	E. Lambton	Jan. 22nd.
16	Brigden (McKenzie's Hall)	W. Lambton	Jan. 23rd.
17	Oil Springs (Town Hall)	W. Lambton	Jan. 24th.
18	Walker's School House	W. Middlesex	Jan. 26th.
19	Riverside (S. S. No. 1)	W. Middlesex (aft)	Jan. 27th.
20	Melbourne (Woodmen's Hall)	W. Middlesex (evg)	Jan. 27th.

DIVISION 3. D. C. Anderson, Rugby ; Erland Lee, Stoney Creek.

1	Norwich (Town Hall)	S. Oxford	Jan. 6th.
2	Mount Elgin (Foresters' Hall)	S. Oxford	Jan. 7th.
3	Courtland (Town Hall)	N. Norfolk	Jan. 8th.
4	Delhi (Morgan's Hall)	N. Norfolk	Jan. 9th.
5	Waterford (Town Hall)	N. Norfolk	Jan. 10th.
6	Aylmer (Town Hall)	E. Elgin	Jan. 12th and 13th.
7	Middlemarch (Grange Hall)	W. Elgin	Jan. 14th.
8	Dutton (Town Hall)	W. Elgin	Jan. 15th.
9	West Lorne (Town Hall)	W. Elgin	Jan. 16th.
10	Duart (Duart Hall)	E. Kent	Jan. 17th.
11	Croton (Croton Hall)	E. Kent	Jan. 19th.
12	Keith (School House)	W. Kent	Jan. 20th.
13	Eberts (Township Hall)	W. Kent	Jan. 21st.
14	Belle River (Town Hall)	N. Essex	Jan. 22nd.
15	Oldcastle (Town Hall)	N. Essex	Jan. 23rd.
16	Leamington (Town Hall)	S. Essex	Jan. 24th and 26th.

REGULAR MEETINGS.—*Continued.*

Division 4. A. C. Hallman, Breslau ; T. H. Race, Mitchell.

1	Princeton (Duke's Hall)	N. Oxford	Jan. 6th.
2	Burford (Cornish Hall)	S. Brant	Jan. 7th.
3	Ohsweken (Council House)	S. Brant	Jan. 8th.
4	Ancaster (Town Hall)	S. Wentworth	Jan. 9th.
5	Stoney Creek (New Hall)	S. Wentworth	Jan. 10th.
6	Campden (Fry's Hall)	Lincoln	Jan. 12th.
7	St. Davids (School House)	Lincoln	Jan. 13th.
8	Willoughby (Town Hall)	Welland	Jan. 14th.
9	Humberstone (Town Hall)	Welland	Jan. 15th.
10	Pelham Centre (Town Hall)	Monck	Jan. 16th.
11	Attercliffe Station (School House)	Monck	Jan. 17th.
12	Sweet's Corners (Town Hall)	Haldimand	Jan. 19th.
13	Jarvis (Chamber's Hall)	Haldimand	Jan. 20th.
14	Vittoria (Lecture Room)	S. Norfolk	Jan. 21st.
15	Langton (Town Hall)	S. Norfolk	Jan. 22nd.

Division 5 : A. E. Sherrington, Walkerton ; L. A. Zufelt, Chesterville ; Miss Agnes Smith, Hamilton.

1	Nassagaweya (Township Hall)	Halton	Jan. 6th.
2	Kilbride (Town Hall)	Halton	Jan. 7th.
3	Hornby (Town Hall)	Halton	Jan. 8th.
4	Palermo (Town Hall)	Halton	Jan. 9th.
5	Oakville (Town Hall)	Halton	Jan. 10th.
6	St. George (Library)	N. Brant	Jan. 12th and 13th.
7	Rockton (Township Hall)	N. Wentworth	Jan. 14th.
8	Freelton (Maccabees' Hall)	N. Wentworth	Jan. 15th.
9	Morriston (Town Hall)	S. Wellington (aft)	Jan. 16th.
10	Aberfoyle (Town Hall)	S. Wellington (evg)	Jan. 16th.
11	Guelph (City Hall)	S. Wellington (aft)	Jan. 17th.
12	Marden	S. Wellington (evg)	Jan. 17th.
13	Preston	S. Waterloo	Jan. 19th.
14	Haysville	S. Waterloo	Jan. 20th.
15	Wellesley (Town Hall)	N. Waterloo	Jan. 21st.
16	Waterloo (Town Hall)	N. Waterloo	Jan. 22nd.
17	Glenallen (Coote's Hall)	W. Wellington	Jan. 23rd.
18	Drayton (Town Hall)	W. Wellington	Jan. 24th.
19	Farewell (School House)	E. Wellington	Jan. 26th.
20	Cedarville (Orange Hall)	E. Wellington	Jan. 27th.
21	Erin (Blue Ribbon Hall)	C. Wellington	Jan. 28th.
22	Marsville (Anthony's Hall)	C. Wellington	Jan. 29th.
23	Alma (Town Hall)	C. Wellington	Jan. 30th.

Division 6 : H. Glendinning, Manilla ; Miss Blanche Maddock, Guelph, January 6th to 23rd inclusive ; A. McNeill, Walkerville, January 24th to 30th, inclusive.

1	Kemble (School House)	N. Grey	Jan. 6th.
2	Owen Sound (Y. M. C. A. Hall)	N. Grey	Jan. 7th.
3	Flesherton (Township Hall)	C. Grey	Jan. 8th.
4	Shelburne (Town Hall)	Dufferin	Jan. 9th.
5	Camille (Harshaus Hall)	Dufferin	Jan. 10th.
6	Tottenham (Town Hall)	S. Simcoe	Jan. 12th.
7	Creemore (Leonard's Hall)	W. Simcoe	Jan. 13th.
8	Duntroon (S. O. S. Hall)	W. Simcoe	Jan. 14th.
9	Thornbury (Town Hall)	C. Grey	Jan. 15th.
10	Meaford (Town Hall)	N. Grey	Jan. 16th.
11	Midhurst (Patrons' Hall)	C. Simcoe	Jan. 17th.
12	Edenvale (Public Hall)	C. Simcee	Jan. 19th.
13	Phelpston (Murphy's Hall)	C. Simcoe	Jan. 20th.
14	Wyevale (Orange Hall)	C. Simcoe	Jan. 21st.
15	Lafontaine (Gignac's Hall)	C. Simcoe	Jan. 22nd.
16	Vasey (Orange Hall)	C. Simcoe	Jan. 23rd.
17	Matchedash	E. Simcoe (aft)	Jan. 24th.

REGULAR MEETINGS.—*Continued.*

18	Coldwater	E. Simcoe (evg)	Jan. 24th.
19	Orillia	E. Simcoe (aft)	Jan. 26th.
20	Rugby	E. Simcoe (evg)	Jan. 26th.
21	Edgar	E. Simcoe	Jan. 27th.
22	Price's Corners	E. Simcoe (aft)	Jan. 28th.
23	Jarrett's Corners	E. Simcoe (evg)	Jan. 28th.
24	Ardtrea	E. Simcoe (aft)	Jan. 29th.
25	Severn Bridge	E. Simcoe (evg)	Jan. 29th.
26	Churchill (Orange Hall)	S. Simcoe	Jan. 30th.

DIVISION 7 : Duncan C. Anderson, Rugby ; Miss Bella Millar, Guelph.

1	Campbellville (Town Hall)	Halton	Nov. 21st.
2	Nelson (Township Hall)	Halton	Nov. 22nd.
3	Glenwilliams (Town Hall)	Halton	Nov. 24th.
4	Belfontain (Library)	Peel	Nov. 25th.
5	Streetsville (Oddfellows' Hall)	Peel	Nov. 26th.
6	Woodbridge (Orange Hall)	W. York	Nov. 27th.
7	Weston (Dufferin Hall)	W. York	Nov. 28th.
8	Wexford (Methodist Hall)	E. York	Nov. 29th.
9	Agincourt (Temperance Hall)	E. York	Dec. 1st.
10	Bowmanville (Good Templars' Hall)	W. Durham (aft)	Dec. 2nd.
11	Courtice (Sons of Temperance Hall)	W. Durham (evg)	Dec. 2nd.
12	Orono (Town Hall)	W. Durham (aft)	Dec. 3rd.
13	Newcastle (Town Hall)	W. Durham (evg)	Dec. 3rd.
14	Millbrook (Town Hall)	E. Durham	Dec. 4th.
15	Bethany (Town Hall)	E. Durham	Dec. 5th.
16	Blackstock (Town Hall)	W. Durham	Dec. 6th.

DIVISION 8 : D. Drummond, Myrtle ; J. H. Smith, Langbank.

1	Uxbridge (Market Hall)	N. Ontario	Nov. 24th.
2	Beaverton (Alexandra Hall)	N. Ontario	Nov. 25th.
3	Woodville (Village Hall)	W. Victoria	Nov. 26th.
4	Little Britain (Village Hall)	W. Victoria	Nov. 27th.
5	Fenelon Falls (Dickson's Hall)	E. Victoria	Nov. 28th.
6	Bobcaygeon (Town Hall)	E. Victoria	Nov. 29th.
7	Peterboro (County Council Chamber)	W. Peterboro (aft)	Dec. 1st.
8	N. Monaghan (Town Hall)	W. Peterboro (evg)	Dec. 1st.
9	Lakefield (Town Hall)	W. Peterboro	Dec. 2nd.
10	Norwood (Town Hall)	E. Peterboro	Dec. 3rd.
11	Keene (Town Hall)	E. Peterboro	Dec. 4th.
12	Stirling (Music Hall)	N. Hastings	Dec. 5th.
13	Madoc (Town Hall)	N. Hastings	Dec. 6th.

DIVISION 9. : J. E. Orr, Fruitland ; Miss Laura Rose, Guelph.

1	Cobourg (Town Hall)	W. Northumberland	Nov. 22nd.
2	Fenella (Hall)	W. Northumberland	Nov. 24th.
3	Warkworth (Town Hall)	E. Northumberland	Nov. 25th.
4	Brighton (Opera House)	E. Northumberland	Nov. 26th.
5	Ameliasburg (Town Hall)	Prince Edward	Nov. 27th.
6	Demorestville (Town Hall)	Prince Edward	Nov. 28th.
7	Frankford (Sweetman's Hall)	W. Hastings	Nov. 29th.
8	Wallbridge (Town Hall)	W. Hastings	Dec. 1st.
9	Newburgh (Finkle's Hall)	Addington	Dec. 2nd.
10	Centreville (Town Hall)	Addington	Dec. 3rd.
11	Tweed (Town Hall)	E. Hastings	Dec. 4th.
12	Canifton (Town Hall)	E. Hastings	Dec. 5th.
13	Marysville (School House)	E. Hastings	Dec. 6th.

DIVISION 10 : Dr. H. G. Reed, Georgetown ; N. G. Somerville, Brockville.

1	Spencerville (Town Hall)	S. Grenville	Nov. 24th.
2	Algonquin (Temperance Hall)	S. Grenville	Nov. 25th.
3	Lyn (School-house)	Brockville	Nov. 26th.
4	Athens (High School Hall)	Brockville	Nov. 27th.

REGULAR MEETINGS.—*Continued.*

5	Newboro (Town Hall)	S. Leeds	Nov. 28th.
6	Lansdowne (Town Hall)	S. Leeds	Nov. 29th.
7	Battersea (Temperance Hall)	Frontenac	Dec. 1st.
8	Harrowsmith (Town Hall)	Frontenac	Dec. 2nd.
9	Stella (Town Hall)	Amherst Island	Dec. 3rd.
10	Emerald (Cheese Factory)	Amherst Island	Dec. 4th.
11	Adolphustown (Church Hall)	Lennox	Dec. 5th.
12	Selby (Town Hall)	Lennox	Dec. 6th.

DIVISION 11: G. H. Barr, Watford; W. S. Fraser, Bradford.

1	Cumberland (Town Hall)	Russell	Nov. 25th.
2	Russell (Town Hall)	Russell	Nov. 26th.
3	Morewood (Foresters' Hall)	Dundas	Nov. 27th.
4	Berwick (Township Hall)	Stormont	Nov. 28th.
5	Aultsville (Township Hall)	Stormont	Nov. 29th.
6	Moulinette (Township Hall)	Cornwall	Dec. 1st.
7	Cornwall Centre (Township Hall)	Cornwall	Dec. 2nd.
8	Martintown (St. Andrew's Hall)	Glengarry	Dec. 3rd.
9	Maxville (Public Hall)	Glengarry	Dec. 4th.
10	Vankleek Hill (Town Hall)	Prescott	Dec. 5th and 6th.

DIVISION 12: T. H. Mason, Straffordville; L. A. Zufelt, Chesterville.

1	South Mountain (Fenton's Hall)	Dundas	Nov. 22nd.
2	Oxford (Town Hall)	N. Leeds and N. Grenville	Nov. 24th.
3	Merrickville (Town Hall)	N. Leeds and N. Grenville	Nov. 25th.
4	Carp (Town Hall)	Carleton	Nov. 26th.
5	Galetta (White's Hall)	Carleton	Nov. 27th.
6	Renfrew (Temperance Hall)	S. Renfrew	Nov. 28th.
7	Stewartville (Township Hall)	S. Renfrew	Nov. 29th.
8	Cobden (Town Hall)	N. Renfrew	Dec. 1st.
9	Westmeath (Public Hall)	N. Renfrew	Dec. 2nd.
10	Almonte (Town Hall)	N. Lanark	Dec. 3rd.
11	Carleton Place (Town Hall)	N. Lanark	Dec. 4th.
12	Smith's Falls (Town Hall)	S. Lanark	Dec 5th.
13	Perth (Town Hall)	S. Lanark	Dec. 6th.

DIVISION 13: Andrew Elliott, Galt, January 6th to 31st; E. C. Drury, Crown Hill, February 2nd to 5th; G. R. Cottrelle, Milton.

1	Powassan (Stewart's Hall)	E. Parry Sound	Jan. 6th.
2	Trout Creek (Trussler's Hall)	E. Parry Sound	Jan. 7th.
3	South River (Library Hall)	E. Parry Sound	Jan. 8th.
4	Sundridge (Orange Hall)	E. Parry Sound	Jan. 9th.
5	Burk's Falls (Wilson's Hall)	E. Parry Sound	Jan. 10th.
6	Emsdale (Agricultural Hall)	E. Parry Sound	Jan. 12th.
7	Doe Lake (School House)	E. Parry Sound (aft)	Jan. 13th.
8	Midlothian (School House)	E. Parry Sound (evg)	Jan. 13th.
9	Magnetawan (Orange Hall)	E. Parry Sound	Jan. 14th.
10	Dunchurch (Keley Hall)	W. Parry Sound (aft)	Jan. 15th.
11	McKellar (Canning Hall)	W. Parry Sound (evg)	Jan. 15th.
12	Broadbent (School House)	W. Parry Sound (aft)	Jan. 16th.
13	Orrville (Town Hall)	W. Parry Sound (evg)	Jan. 16th.
14	Carling (School House)	W. Parry Sound (aft)	Jan. 17th.
15	McDougal (School House)	W. Parry Sound (evg)	Jan. 17th.
16	Parry Sound (Union Hall)	W. Parry Sound (aft)	Jan. 19th.
17	Falding (Rankin's Hall)	W. Parry Sound (evg)	Jan. 19th.
18	Novar (Cowan's Hall)	N. Muskoka	Jan. 20th.
19	Huntsville (Court House)	N. Muskoka aft)	Jan. 21st.
20	Union S. S. No. 2	N. Muskoka (evg)	Jan. 21st.
21	Hillside (School House)	N. Muskoka	Jan. 22nd.
22	Brunel (Township Hall)	N. Muskoka	Jan. 23rd.
23	Ravenscliffe (Patron's Hall)	N. Muskoka	Jan. 24th.
24	Stisted (Township Hall)	N. Muskoka	Jan. 26th.
25	Utterson (Town Hall)	C. Muskoka	Jan. 27th.
26	Lancelot (School House)	C. Muskoka (aft)	Jan. 28th.
27	Allansville (School House)	C. Muskoka (evg)	Jan. 28th.

REGULAR MEETINGS.—*Concluded.*

28	Beatrice (Temperance Hall)	C. Muskoka (aft)	Jan. 29th.
29	Ufford (Mr. Wm. Kay's House)	C. Muskoka (evg)	Jan. 29th.
30	Bracebridge (Town Hall)	S. Muskoka	Jan. 30th.
31	Baysville (Town Hall)	S. Muskoka	Jan. 31st.
32	Uffington (Fielding's Hall)	S. Muskoka (aft)	Feb. 2nd.
33	Germania (School House)	S. Muskoka (evg)	Feb. 2nd.
34	Gravenhurst (Town Hall)	S. Muskoka	Feb. 3rd.
35	Bala (Currie's Hall)	Port Carling and Bala	Feb. 4th.
36	Port Carling (Victoria Hall)	Port Carling and Bala	Feb. 5th.

Division 14: F. J. Sleightholm, Strathroy; J. W. Clark, Onondaga.

1	North Bay (Widdifield Hall)	W. Nipissing	Jan. 6th
2	Sturgeon Falls (Town Hall)	W. Nipissing	Jan. 7th.
3	Verner	W. Nipissing	Jan. 8th.
4	Warren	W. Nipissing	Jan. 9th.
5	East Korah (School House)	C. A'goma	Jan. 12th.
6	West Korah (School House)	C. Algoma	Jan. 13th.
7	Base Line (School House)	C. Algoma	Jan. 14th.
8	Desbarats (Orange Hall)	St. Joseph Island (aft)	Jan. 15th.
9	MacLennan (Temperance Hall)	St. Joseph Island (evg)	Jan. 15th.
10	Richard's Landing (Town Hall)	St. Joseph Island	Jan. 16th.
11	Kentvale (Kent's Hall)	St. Joseph Island	Jan. 17th.
12	Tenby Bay (School House)	St. Joseph Island (aft)	Jan. 19th.
13	Carterton (Jocelyn Hall)	St. Joseph Island (evg)	Jan. 19th.
14	Marksville (Town Hall)	St. Joseph Island	Jan. 20th.
15	Cloudslee (Methodist Hall)	E. Algoma (aft)	Jan. 21st.
16	Thessalon (Town Hall)	E. Algoma (evg)	Jan. 21st.
17	Sowerby (Macabee Hall)	E. Algoma	Jan. 22nd.
18	Goldenburg (School House)	E. Algoma (aft)	Jan. 23rd.
19	Bellingham (Donald Bell's House)	E. Algoma (evg)	Jan. 23rd.
20	Iron Bridge (Orange Hall)	E. Algoma	Jan. 24th.
21	Thompson (School House)	E. Algoma (aft)	Jan. 26th.
22	Blind River (School House)	E. Algoma (evg)	Jan. 26th.
23	Walford (School House)	E. Algoma	Jan. 27th.
24	Massey (School House)	E. Algoma	Jan. 28th
25	Little Current (Town Hall)	E. Manitoulin	Jan. 29th.
26	Sheguiandah (Town Hall)	E. Manitoulin	Jan. 30th.
27	Green Bay (School House)	E. Manitoulin	Jan. 31st.
28	Manitowaning (Agricultural Hall)	E. Manitoulin	Feb. 2nd.
29	Tekummah (School House)	E. Manitoulin	Feb. 3rd.
30	Mindemoya (School House)	E. Manitoulin	Feb. 4th.
31	Grimesthorpe (School House)	W. Manitoulin	Feb. 5th.
32	Long Bay (School House)	W. Manitoulin	Feb. 6th.
33	Poplar (School House)	W. Manitoulin	Feb. 7th.
34	Evansville, (School House)	W. Manitoulin	Feb. 9th.
35	Silverwater (School House)	W. Manitoulin	Feb. 10th.
36	Barrie Island (School House)	W. Manitoulin	Feb. 11th.
37	Gore Bay (Brazenor's Hall)	W. Manitoulin	Feb. 12th.
38	Kagawong (School House)	W. Manitoulin	Feb. 13th.

SUPPLEMENTARY MEETINGS.

Division 1: T. G. Raynor, Rosehall; Miss Ida Hunter, Toronto.

1	Desboro (Township Hall)	N. Grey	Nov. 27th.
2	Kilsyth (Township Hall)	N. Grey	Nov. 28th.
3	Annan (Grange Hall)	N. Grey (aft)	Nov. 29th.
4	Leith (Hall)	N. Grey (evg)	Nov. 29th.
5	Bognor (Hall)	N. Grey	Dec. 1st.
6	Snyder's School-house	N. Grey	Dec. 2nd.
7	Holland Centre (Price's Hall)	Centre Grey	Dec. 3rd.
8	Kimberly (Union Hall)	Centre Grey	Dec. 4th.
9	Feversham (Orange Hall)	Centre Grey	Dec. 5th.
10	Priceville (Watson's Hall)	Centre Grey	Dec. 6th.

SUPPLEMENTARY MEETINGS.—*Continued.*

DIVISION 2: Andrew Elliott, Galt; Miss Blanche Maddock, Guelph.

1	Kincardine (Town Hall)	Centre Bruce	Nov. 18th.
2	Ripley (Agricultural Hall)	Centre Bruce	Nov. 19th.
3	Bervie (Orange Hall)	Centre Bruce	Nov. 20th.
4	Glamis (Methodist Hall)	Centre Bruce	Nov. 21st.
5	Pinkerton (Johnson's Hall)	Centre Bruce	Nov. 22nd.
6	Port Albert (C. O. F. Hall)	W. Huron	Nov. 24th.
7	Auburn (Temperance Hall)	W. Huron	Nov. 25th.
8	St. Helen's (Town Hall)	W. Huron	Nov. 26th.
9	Wingham (Town Hall)	W. Huron	Nov. 27th.
10	Fordwich (Donaghey's Hall)	E. Huron	Nov. 28th.
11	Molesworth	E. Huron	Nov. 29th.
12	Bluevale (Forester's Hall)	E. Huron	Dec. 1st.
13	Ethel (Town Hall)	E. Huron	Dec. 2nd.
14	Walton	E. Huron	Dec. 3rd.

DIVISION 3: Duncan Anderson, Rugby; F. A. Sheppard, Queenston.

1	Lavery's School-house	Union	Feb. 3rd.
2	Drew (Temperance Hall)	Union	Feb. 4th.
3	Dromore (Russell Hall)	S. Grey	Feb. 5th.
4	Holstein (Agricultural Hall)	S. Grey	Feb. 6th.
5	Ayton (Doersam's Hall)	S. Grey	Feb. 7th.
6	Elmwood (Mechllanson's Hall)	S. Grey and S. Bruce	Feb. 9th.
7	Mar (Town Hall)	N. Bruce	Feb. 10th.
8	Spry (Town Hall)	N. Bruce	Feb. 11th.
9	Lion's Head (Town Hall)	N. Bruce	Feb. 12th.
10	Allenford (Orange Hall)	W. Bruce	Feb. 14th.
11	Arkwright (Township Hall)	W. Bruce	Feb. 16th.
12	Ribey's (School-house)	W. Bruce	Feb. 17th.
13	Underwood (Township Hall)	W. Bruce	Feb. 18th.
14	Tiverton (Town Hall)	W. Bruce	Feb. 19th.
15	Lucknow (Town Hall)	S. Bruce	Feb. 20th.
16	Holyrood (Township Hall)	S. Bruce	Feb. 21st.
17	Belmore (Foresters' Hall)	S. Bruce	Feb. 23rd.
18	Mildmay (Town Hall)	S. Bruce	Feb. 24th.
19	Walkerton (Town Hall)	S. Bruce	Feb. 25th.

DIVISION 4: T. G. Raynor, Rosehall; Elmer Lick, Oshawa.

1	Lobo (Masonic Hall)	N. Middlesex	Feb. 3rd.
2	Granton (Town Hall)	N. Middlesex	Feb. 4th.
3	Lucan (Town Hall)	N. Middlesex	Feb. 5th.
4	West McGillivary (Town Hall)	N. Middlesex	Feb. 6th.
5	Beechwood (Grange Hall)	N. Middlesex	Feb. 7th.
6	Sylvan (Maccabees' Hall)	N. Middlesex	Feb. 9th.
7	Greenway (Wilson's Hall)	N. Middlesex	Feb. 10th.
8	Sarnia (Council Chamber)	W. Lambton (aft)	Feb. 11th.
9	Bunyan School House	W. Lambton (evg)	Feb. 11th.
10	Courtwright (Stewart's Hall)	W. Lambton	Feb. 12th.
11	Wilkesport (Richmond Hall)	W. Lambton	Feb. 13th.
12	Beacher (Foresters' Hall)	W. Lambton	Feb. 14th.
13	Rutherford (Township Hall)	W. Lambton	Feb. 16th.
14	Oakdale (S. S. No. 5)	E. & W. Lambton	Feb. 17th.
15	Enniskillen (Township Hall)	W. Lambton	Feb. 18th.
16	Inwood (Orange Hall)	E. Lambton	Feb. 19th.
17	Shetland	E. Lambton	Feb. 20th.
18	Alvinston (Cody's Hall)	E. Lambton	Feb. 21st.
19	Warwick (Town Hall)	E. Lambton	Feb. 23rd.
20	Camlachie (Town Hall)	E. Lambton	Feb. 24th.

DIVISION 5: F. M. Lewis, Burford; Robt. Thompson, St. Catharines; Miss Blanche Maddock, Guelph.

1	Gowanstown (Town Hall)	N. Perth	Feb. 3rd.
2	Milverton (Grosch's Hall)	N. Perth	Feb. 4th.
3	Monkton (Town Hall)	N. Perth	Feb. 5th.

SUPPLEMENTARY MEETINGS.—*Continued.*

4	Rostock (Wingfelder's Hall)	N. Perth	Feb.	6th.
5	Hampstead (School House)	N. Perth	Feb.	7th.
6	Shakespeare (Temperance Hall)	N. Perth	Feb.	9th.
7	Tavistock (Public Hall)	S. Perth	Feb,	10th.
8	Sebringville (Foresters' Hall)	S. Perth	Feb.	11th.
9	Fullarton (Township Hall)	S. Perth	Feb.	12th.
10	Staffa (Township Hall)	S. Perth	Feb.	13th.
11	Kirkton (Aberdeen Hall)	S. Perth	Feb.	14th.
12	Elmville	S. Huron	Feb.	16th.
13	Dashwood (Moser's Hall)	S. Huron	Feb.	17th.
14	Zurich (Town Hall)	S. Huron	Feb.	18th.
15	Hensall (Miller's Hall)	S. Huron	Feb.	19th.
16	Bayfield	S. Huron	Feb.	20th.

DIVISION 6: F. C. Elford, Holmesville; C. W. Nash, Toronto; Miss Bella Millar, Guelph.

1	Drumbo (Town Hall)	N. Oxford	Feb.	3rd.
2	Plattsville (Town Hall)	N. Oxford	Feb.	4th.
3	Bright (Town Hall)	N. Oxford	Feb.	5th.
4	Innerkip (Town Hall)	N. Oxford	Feb.	6th.
5	Hickson (Foresters' Hall)	N. Oxford	Feb.	7th.
6	Embro (Town Hall)	N. Oxford	Feb.	9th.
7	Thamesford (Town Hall)	N. Oxford	Feb.	10th.
8	Dorchester Station (McCann's Hall)	E. Middlesex	Feb.	11th.
9	Harrietsville (Oddfellows' Hall)	E. Middlesex	Feb.	12th.
10	Pond Mills	E. Middlesex	Feb.	13th.
11	Glanworth (Glanworth Hall)	E. Middlesex	Feb.	14th.
12	Wellburn (German's Hall)	E. Middlesex	Feb.	16th.
13	Thorndale (Harding's Hall)	E. Middlesex	Feb.	17th.
14	Bryanston (Orange Hall)	E. Middlesex	Feb.	18th.
15	Hyde Park (Hodgens' Hall)	E. Middlesex	Feb.	19th.
16	Strathroy (Dairy School)	W. Middlesex	Feb.	20th.
17	Mt Brydges (Township Hall)	W. Middlesex	Feb.	21st.
18	Appin (Township Hall)	W. Middlesex	Feb.	23rd.
19	Glencoe (Town Hall)	W. Middlesex	Feb.	24th.
20	Wardsville (Town Hall)	W. Middlesex	Feb.	25th.

DIVISON 7: G. C. Caston, Craighurst; W. F. Kydd, Simcoe.

1	Shedden (Morrison's Hall)	West Elgin	Feb.	3rd.
2	Dutton (Town Hall)	West Elgin	Feb.	4th.
3	Rodney (Town Hall)	West Elgin	Feb.	5th.
4	Highgate (Township Hall)	East Kent	Feb.	6th.
5	Ridgetown (Township Hall)	East Kent	Feb.	7th.
6	Blenheim (Township Hall)	East Kent	Feb.	9th.
7	Bridge End	East Kent	Feb.	10th.
8	Thamesville (Town Hall)	East Kent	Feb.	11th.
9	Zone (Township Hall)	East Kent	Feb	12th.
10	Bear Line (Foresters' Hall)	West Kent	Feb.	13th.
11	Fletcher (Robinson's Hall)	West Kent	Feb.	14th.
12	Tilbury (Palmer's Hall)	West Kent	Feb.	16th.
13	Wheatley (Gibson's Hall)	W. Kent and S. Essex	Feb.	17th and 18th.
14	Kingsville (Town Hall)	South Essex	Feb.	19th.
15	Harrow (Town Hall)	South Essex	Feb.	20th.
16	Amherstburg (Town Hall)	South Essex	Feb.	21st.
17	Essex (I. O. O. F. Hall)	South Essex	Feb.	23rd.
18	South Woodslee (St. Laurence Hall)	North Essex	Feb.	24th.
19	Comber (Town Hall)	North Essex	Feb.	25th.
20	Elmstead	North Essex	Feb.	26th.
21	Walkerville	North Essex	Feb.	27th.
22	Yarmouth Centre (Township Hall)	East Elgin (aft)	Feb.	28th.
23	Sparta	East Elgin (evg)	Feb.	28th.
24	Copenhagen	East Elgin (aft)	Mar.	2nd.
25	Mount Salem (Royal Templar's Hall)	East Elgin (evg)	Mar.	2nd.
26	Straffordville (Agricultural Hall)	East Elgin (aft)	Mar.	3rd.
27	Corinth (Town Hall)	East Elgin (evg)	Mar.	3rd.

SUPPLEMENTARY MEETINGS.—*Continued.*

DIVISION 8: Dr. H. G. Reed, Georgetown; L. A. Zufelt, Chesterville; Miss Ida Hunter, Toronto.

1	Bealton (Bealton Hall)	N. Norfolk	Feb. 3rd.
2	Windham Centre (Town Hall)	N. Norfolk	Feb. 4th.
3	Kelvin (Kelvin Hall)	N. Norfolk	Feb. 5th.
4	Scotland (Foresters' Hall)	S. Brant	Feb. 6th.
5	New Durham (Congregational Hall)	S. Brant	Feb. 7th.
6	Mount Pleasant (Foresters' Hall)	S. Brant	Feb. 9th.
7	Cathcart (Foresters' Hall)	S. Brant	Feb. 10th.
8	Vandecar (Methodist Hall)	S. Oxford	Feb. 11th.
9	Burgessville (Oddfellows' Hall)	S. Oxford	Feb. 12th.
10	Springford (Town Hall)	S. Oxford	Feb. 13th.
11	Otterville (Town Hall)	S. Oxford	Feb. 14th.
12	Beachville (Town Hall)	S. Oxford	Feb. 16th.
13	Ingersoll (Town Hall)	S. Oxford	Feb. 17th.
14	Tilsonburg (Town Hall)	S. Oxford	Feb. 18th.
15	Brownsville (Methodist School Room)	S. Oxford	Feb. 19th.
16	Fairground (Town Hall)	S. Norfolk	Feb. 20th.
17	St. Williams (Town Hall)	S. Norfolk	Feb. 21st.
18	Simcoe (Library Hall)	S. Norfolk	Feb. 23rd and 24th.
19	Port Dover (Town Hall)	S. Norfolk	Feb. 25th.
20	Selkirk (Town Hall)	Haldimand	Feb. 26th.
21	Kohler (School House)	Haldimand	Feb. 27th.
22	Clanbrassil (School House)	Haldimand	Feb. 28th.
23	York (Town Hall)	Haldimand	Mar. 2nd.
24	Canfield (Town Hall)	Haldimand	Mar. 3rd.
25	Dunnville (Town Hall)	Monck	Mar. 4th.
26	Marshville (Town Hall)	Monck	Mar. 5th.
27	Smithville Agricultural Hall)	Monck	Mar. 6th.
28	Caistorville (Church Basement)	Monck	Mar. 7th.

DIVISION 9: H. Glendinning, Manilla; Miss S. A. Morris, Toronto; J. H. Smith, Langbank; Feb. 9th to 24th inclusive; Prof. C. A. Zavitz, O.A.C., Guelph. Feb. 25th to Mar. 4th.

1	Ballinafad (Town Hall)	Halton	Feb. 3rd.
2	Georgetown (Town Hall)	Halton	Feb. 4th.
3	Drumquin (S. S. No. 10)	Halton	Feb. 5th.
4	Appleby	Halton	Feb. 6th.
5	Waterdown (Township Hall)	N. Wentworth	Feb. 7th.
6	Millgrove (Town Hall)	N. Wentworth	Feb. 9th.
7	Carlisle (Orange Hall)	N. Wentworth	Feb. 10th.
8	Westover (Town Hall)	N. Wentworth	Feb. 11th.
9	Kirkwall (School House)	N. Wentworth	Feb. 12th.
10	Sheffield (Town Hall)	N. Wentworth	Feb. 13th.
11	Lynden (Town Hall)	N. Wentworth	Feb. 14th.
12	Jerseyville (Town Hall)	S. Wentworth	Feb. 16th.
13	Carluke (School House)	S. Wentworth	Feb. 17th.
14	Glanford (Temperance Hall)	S. Wentworth	Feb. 18th.
15	Bartonville (Parish Hall)	S. Wentworth	Feb. 19th.
16	Binbrook (Temperance Hall)	S. Wentworth	Feb. 20th.
17	Tapleytown (Old Church)	S. Wentworth	Feb. 21st
18	Grimsby (Town Hall)	Lincoln	Feb. 23rd.
19	Beamsville (Town Hall)	Lincoln	Feb. 24th.
20	Jordan Station (Macabees' Hall)	Lincoln	Feb. 25th.
21	Grantham Township (Orange Hall)	Lincoln	Feb. 26th.
22	Virgil (Public Hall)	Lincoln	Feb. 27th.
23	Niagara Falls South (Town Hall)	Welland	Feb. 28th.
24	Allanburg (Town Hall)	Welland	Mar. 2nd.
25	Crowland (Town Hall)	Welland	Mar. 3rd.
26	Stevensville (Town Hall)	Welland	Mar. 4th.

DIVISION 10: J. E. Orr, Fruitland; T. H. Mason, Straffordville.

1	Onondaga (Township Hall)	N. Brant	Feb. 3rd.
2	Moyle's School House	N. Brant	Feb. 4th.
3	Glenmorris (Township Hall)	N. Brant	Feb. 5th.

SUPPLEMENTARY MEETINGS.—*Continued.*

4	Ayr (McGeorge's Hall)	S. Waterloo	Feb. 6th.
5	New Dundee (Myers' Hall)	S. Waterloo	Feb. 7th.
6	Mannheim	S. Waterloo	Feb. 9th.
7	Baden (Village Hall)	S. Waterloo	Feb. 10th.
8	Phillipsburg (Village Hall)	S. Waterloo	Feb. 11th.
9	New Hamburg	S. Waterloo	Feb. 12th.
10	Elmira (E. M. S. Hall)	N. Waterloo	Feb. 13th.
11	Hawksville (Meyers' Hall)	N. Waterloo	Feb. 14th.
12	St. Jacobs (Wideman's Hall)	N. Waterloo	Feb. 16th.
13	Bloomingdale (Hummel's Hall)	N. Waterloo	Feb. 17th.
14	Ennotville (Mechanics' Institute)	C. Wellington	Feb. 18th.
15	Metz (Orange Hall)	C. Wellington	Feb. 19th.
16	Mimosa (School House)	C. Wellington	Feb. 20th.
17	Hillsburg (Town Hall)	C. Wellington	Feb. 21st.
18	Grand Valley	E. Wellington	Feb. 23rd.
19	Arthur (Town Hall)	E. Wellington	Feb. 24th.
20	Kenilworth (Township Hall)	E. Wellington	Feb. 25th.
21	Mount Forest (Town Hall)	E. Wellington	Feb. 26th.
22	Palmerston (Town Hall)	W. Wellington	Feb. 27th.
23	Moorefield (Township Hall)	W. Wellington	Feb. 28th.
24	Rothsay (Temperance Hall)	W. Wellington	Mar. 2nd.

Division 11: Andrew Elliott, Galt; Miss Agnes Smith, Hamilton, Feb. 3rd to 20th, inclusive. A. E. Sherrington, Walkerton, Feb. 3rd to 20th, inclusive; R. S. Stevenson, Ancaster, Feb. 21st to Mar. 2nd.

1	Adjala (Sloan's Hall)	S. Simcoe	Feb. 3rd.
2	Bond Head (Orange Hall)	S. Simcoe	Feb. 4th.
3	Thornton (Orange Hall)	S. Simcoe	Feb. 5th.
4	Everett (Town Hall)	W. Simcoe	Feb. 6th.
5	New Lowell (Town Hall)	W. Simcoe	Feb. 7th.
6	Stayner (Stewart's Hall)	W. Simcoe	Feb. 9th.
7	Nottawa (Orange Hall)	W. Simcoe	Feb. 10th.
8	Singhampton (Grant's Hall)	W. Simcoe	Feb. 11th.
9	Redickville (School House)	Dufferin (aft)	Feb. 12th.
10	Honeywood (Chosen Friends' Hall)	Dufferin (aft)	Feb. 12th.
11	Perm (Orange Hall)	Dufferin	Feb. 13th.
12	Horning's Mills (Workmen's Hall)	Dufferin	Feb. 14th.
13	Jessopville (School House)	Dufferin (aft)	Feb. 16th.
14	Violet Hill (Orange Hall)	Dufferin (aft)	Feb. 16th.
15	Relessey (Orange Hall)	Dufferin	Feb. 17th.
16	Laurel (Township Hall)	Dufferin (aft)	Feb. 18th.
17	Milton (Town Hall)	Halton	Feb. 19th.
18	Burlington (Town Hall)	Halton	Feb. 20th.
19	Branchton (Foresters' Hall)	S. Waterloo	Feb. 21st.
20	Roseville (Township Hall)	S. Waterloo	Feb. 23rd.
21	Dumfries (Township Hall)	S. Waterloo	Feb. 24th.
22	Galt	S. Waterloo	Feb. 25th.
23	Strasburg	S. Waterloo	Feb. 26th.
24	Hespeler	S. Waterloo	Feb. 27th.
25	Kossuth	S. Waterloo	Feb. 28th.
26	Breslau	S. Waterloo	Mar. 2nd.

Division 12: W. S. Fraser, Bradford; F. A. Sheppard, Queenston; Miss Ida Hunter, Toronto, Jan. 6th to 30th, inclusive.

1	Bolton (Town Hall)	Peel	Jan. 6th.
2	Sandhill (Methodist Hall)	Peel	Jan. 7th.
3	Charleston (Township Hall)	Peel	Jan. 8th.
4	Alton (Science Hall)	Peel	Jan. 9th.
5	Churchville (Temperance Hall)	Peel	Jan. 10th.
6	Cooksville (Township Hall)	Peel	Jan. 12th.
7	Brampton (Concert Hall)	Peel	Jan. 13th.
8	Elmbank (Temperance Hall)	Peel	Jan. 14th.
9	Islington (Township Hall)	W. York	Jan. 15th.

SUPPLEMENTARY MEETINGS.—*Continued.*

10	Thistletown (Harris Hall)	W. York	Jan. 16th.
11	Kleinburg (Temperance Hall)	W. York	Jan. 17th.
12	Maple (Masonic Hall)	W. York	Jan. 19th.
13	Thornhill (Hughes' Hall)	E. York	Jan. 20th.
14	Unionville (Victoria Hall)	E. York	Jan. 21st.
15	Boxgrove (Foresters' Hall)	E. York	Jan. 22nd.
16	Ellesmere (Curlers' Room)	E. York	Jan. 23rd.
17	Altona	N. Ontario	Jan. 24th.
18	Goodwood	N. Ontario	Jan. 26th.
19	Uxbridge (Market Hall)	N. Ontario	Jan. 27th.
20	Zephyr	N. Ontario	Jan. 28th.
21	Udora (Orange Hall)	N. Ontario	Jan. 29th.
22	Sunderland (Town Hall)	N. Ontario	Jan. 30th.
23	Cannington (Town Hall)	N. Ontario	Jan. 31st.
24	Beaverton (Alexandra Hall)	N. Ontario	Feb. 2nd.
25	Brechin (McGrath's Hall)	N. Ontario	Feb. 3rd.
26	Fair Valley (School House)	N. Ontario (aft)	Feb. 4th.
27	Upthegrove	N. Ontario (evg)	Feb. 4th.
28	Kirkfield (Village Hall)	W. Victoria	Feb. 5th.
29	Oakwood (Township Hall)	W. Victoria	Feb. 6th.
30	Valentia (Foresters' Hall)	W. Victoria	Feb. 7th.
31	Lindsay (Town Hall)	W. Victoria	Feb. 9th.

Division 13. J. E. Orr, Fruitland; John Gardhouse, Highfield; Miss Bella Millar, Guelph.

1	Blackstock (Township Hall)	West Durham	Jan. 6th.
2	Solina (Sons of Temperance Hall)	West Durham (aft)	Jan. 7th.
3	Tyrone (Sons of Temperance Hall)	West Durham (evg)	Jan. 7th.
4	Kendal (Foresters' Hall)	West Durham (aft)	Jan. 8th.
5	Orono (Town Hall)	West Durham (evg)	Jan. 8th.
6	Welcome (School House)	East Durham	Jan. 9th.
7	Garden Hill (Orange Hall)	East Durham	Jan. 10th.
8	South Monaghan (Town Hall)	East Durham	Jan. 12th.
9	Lifford (Temperance Hall)	East Durham	Jan. 13th.
10	Omemee (Bradburn's Hall)	East Victoria	Jan. 14th.
11	Dunsford (Old Church)	East Victoria	Jan. 15th.
12	Cameron (Orange Hall)	East Victoria	Jan. 16th.
13	Burnt River (Orange Hall)	East Victoria	Jan. 17th.
14	Seagrave	S. Ontario	Jan. 19th.
15	Greenbank (Town Hall)	S. Ontario	Jan. 20th.
16	Myrtle (Temperance Hall)	S. Ontario	Jan. 21st.
17	Whitby (Council Chamber)	S. Ontario	Jan. 22nd.
18	Pickering (Fire Hall)	S. Ontario	Jan. 23rd.
19	Kinsale (Temperance Hall)	S. Ontario	Jan. 24th.

Division 14. A. W. Peart, Burlington; W. F. Kydd, Simcoe; Mrs. A. Kinney, Grand View, January 6th to 22nd, inclusive.

1	Young's Point (Town Hall)	W. Peterboro	Jan. 6th.
2	4th Line (Union Hall)	W. Peterboro	Jan. 7th.
3	Ennismore (Town Hall)	W. Peterboro	Jan. 8th.
4	Stewarts (Union Hall)	W. Peterboro	Jan. 9th.
5	Douro (St. Patrick Hall)	E. Peterboro	Jan. 10th.
6	Warsaw (Town Hall)	E. Peterboro	Jan. 12th.
7	Havelock (Town Hall)	E. Peterboro	Jan. 13th.
8	Westwood (Town Hall)	E. Peterboro	Jan. 14th.
9	Hastings (Town Hall)	E. Northumberland	Jan. 15th.
10	Menie (Town Hall)	E. Northumberland	Jan. 16th.
11	Wooler (Town Hall)	E. Northumberland	Jan. 17th.
12	Castleton (Town Hall)	E. Northumberland	Jan. 19th.
13	Grafton	W. Northumberland	Jan. 20th.
14	Baltimore (Chapman Hall)	W. Northumberland	Jan. 21st.
15	Cold Springs (Township Hall)	W. Northumberland	Jan. 22nd.
16	Consecon (Killip's Hall)	Prince Edward (aft)	Jan. 23rd.

SUPPLEMENTARY MEETINGS.—*Continued.*

17	Hillier (Town Hall)	Prince Edward (evg)	Jan.	23rd.
18	Picton (Shire Hall)	Prince Edward (aft)	Jan.	24th.
19	Westlake (School House)	Prince Edward (evg)	Jan.	24th.
20	Wellington (Town Hall)	Prince Edward	Jan.	26th.
21	Bloomfield (Town Hall)	Prince Edward	Jan.	27th.
22	Cherry Valley (Town Hall)	Prince Edward	Jan.	28th.
23	Milford (Town Hall)	Prince Edward	Jan.	29th.
24	Gressy (A. O. U. W. Hall)	Prince Edward (aft)	Jan.	30th.
25	Waupoos (Town Hall)	Prince Edward (evg)	Jan.	30th.

DIVISION. 15. R. S. Stevenson, Ancaster; J. H. Smith, Langbank.

1	Sillsville (Town Hall)	Lennox	Jan.	6th.
2	Odessa (Town Hall)	Lennox	Jan.	7th.
3	Switzerville (School House)	Lennox	Jan.	8th.
4	Roblin (Orange Hall)	Lennox	Jan.	9th.
5	Tamworth (Town Hall)	Addington	Jan.	10th.
6	Enterprise (Merrill's Hall)	Addington	Jan.	12th.
7	Marlbank	E. Hastings	Jan.	13th.
8	Stoco (Murphy's Hall)	E. Hastings	Jan.	14th.
9	Queensboro (Orange Hall)	N. Hastings	Jan.	15th.
10	Eldorado (Town Hall)	N. Hastings	Jan.	16th.
11	Marmora (Town Hall)	N. Hastings	Jan.	17th.
12	Springbrook (Foresters' Hall)	N. Hastings	Jan.	19th.
13	Moira (Town Hall)	N. Hastings	Jan.	20th.
14	Turner's (School House)	W. Hastings	Jan.	21st.
15	Harder's (School House)	W. Hastings	Jan.	22nd.
16	Gilbert's (School House)	W. Hastings	Jan.	23rd.
17	Spencer's (School House)	E. Hastings	Jan.	24th.
18	Foxboro (School House)	E. Hastings	Jan.	26th.
19	Plainfield (A. O. U. W. Hall)	E. Hastings	Jan.	27th.
20	Melrose (Town Hall)	E. Hastings	Jan.	28th.
21	Emerald (Cheese Factory)	Amherst Island	Jan.	29th.
22	Stella (Town Hall)	Amherst Island	Jan.	30th.
23	Barriefield (Town Hall)	Frontenac	Jan.	31st.
24	Elginburg (Martin's Hall)	Frontenac	Feb.	2nd.
25	Gananoque (Town Hall)	S. Leeds	Feb.	3rd.
26	Seeley's Bay (Select Knights' Hall)	S. Leeds	Feb.	4th.
27	Elgin (Town Hall)	S. Leeds	Feb	5th.
28	Delta (Town Hall)	S. Leeds	Feb.	6th.

DIVISION 16. Harold Jones, Maitland; G. H. Hutton, Easton's Corners.

1	Springfield (Township Hall)	Brockville (aft)	Jan.	6th.
2	Mallorytown (Oddfellows' Hall)	Brockville (evg)	Jan.	6th.
3	Caintown (Presbyterian Church Vestry)	Brockville	Jan.	7th.
4	Addison (Ashwood Hall)	Brockville	Jan.	8th.
5	Rows' Corners (School House)	Brockville (aft)	Jan.	9th.
6	Fairfield East (Foresters' Hall)	Brockville (evg)	Jan.	9th.
7	Domville (Epworth Hall)	S. Grenville	Jan.	10th.
8	Roebuck (Orange Hall)	S. Grenville	Jan.	12th.
9	Garretton (Orange Hall)	S. Grenville	Jan.	13th.
10	Ventnor (Judson's Hall)	S. Grenville	Jan.	14th.
11	Mainsville (School House)	S. Grenville	Jan.	15th.
12	Cardinal (Town Hall)	S. Grenville	Jan.	16th.
13	Brinston's Corners (Cooper's Hall)	Dundas	Jan.	17th.
14	North Williamsburg (Markley's Hall)	Dundas	Jan.	19th.
15	North Branch	Cornwall	Jan.	20th.
16	South Branch	Cornwall	Jan.	21st.
17	Lancaster (McRae Hall)	Glengarry	Jan.	22nd.
18	Quiglies (McCormick's Hall)	Glengarry	Jan.	23rd.
19	St. Anne de Prescott (School House)	Prescott	Jan.	24th.
20	Caledonia (School House)	Prescott	Jan.	26th.
21	Rockland (Town Hall)	Russell	Jan.	27th.
22	South Indian (Town Hall)	Russell	Jan.	28th.

SUPPLEMENTARY MEETINGS.—*Concluded.*

23	Moose Creek (Gagnon's Hall)	Stormont	Jan.	29th.
24	Monkland	Stormont	Jan.	30th.
25	Avonmore (Avonmore Hall)	Stormont	Jan.	31st.
26	Newington (Newington Hall)	Stormont	Feb.	2nd.
27	Metcalfe (Town Hall)	Russell	Feb.	3rd.
28	Vernon (Town Hall)	Russell	Feb.	4th.
29	The Brook	Russell	Feb.	5th.

DIVISION 17. T. G. Raynor, Rosehall; Dr. H. G. Reed, Georgetown.

1	Toledo (Town Hall)	N. Leeds and N. Grenville	Jan.	6th.
2	Easton's Corners (Warren's Hall)	N. Leeds and N. Grenville	Jan.	7th.
3	Bishop's Mills (Temperance Hall)	N. Leeds and N. Grenville	Jan.	8th.
4	Miller's Corners (Orange Hall)	N. Leeds and N. Grenville	Jan.	9th.
5	Burritts' Rapids (School House)	N. Leeds and N. Grenville	Jan.	10th.
6	North Gower (Town Hall)	Carleton	Jan.	12th.
7	Manotick (Harmony Hall)	Carleton	Jan.	13th.
8	Richmond (Town Hall)	Carleton	Jan.	14th.
9	Ashton (Temperance Hall)	Carleton	Jan.	15th.
10	Bells' Corners (Orange Hall)	Carleton	Jan.	16th.
11	Lockwinnock (School House)	S. Renfrew (aft.)	Jan.	17th.
12	Horton (Town Hall)	S. Renfrew (evg.)	Jan.	17th.
13	White Lake	S. Renfrew (aft.)	Jan.	19th.
14	Burnstown (Temperance Hall)	S. Renfrew (evg.)	Jan.	19th.
15	Northcote (Temperance Hall)	S. Renfrew (aft.)	Jan.	20th.
16	Admaston (Temperance Hall)	S. Renfrew (evg.)	Jan.	20th.
17	Mount St. Patrick	S. Renfrew (aft.)	Jan.	21st.
18	Killaloe	S. Renfrew (aft.)	Jan.	22nd.
19	Brudenell	S. Renfrew (evg.)	Jan.	22nd.
20	Rankin (School House)	N. Renfrew	Jan.	23rd.
21	Greenwood (Temperance Hall)	N. Renfrew	Jan.	24th.
22	Pakenham (Agricultural Hall)	N. Lanark	Jan.	26th.
23	Clayton (Foresters' Hall)	N. Lanark (aft.)	Jan.	27th.
24	Middleville (Town Hall)	N. Lanark (evg.)	Jan.	27th.
25	Watson's Corners (Temperance Hall)	N. Lanark (aft.)	Jan.	28th.
26	McDonald's Corners (Agricultural Hall)	N. Lanark (evg.)	Jan.	28th.
27	Lanark (Town Hall)	N. Lanark	Jan.	29th.
28	Balderson (McGregor Hall)	S. Lanark	Jan	30th.
29	Innisville (Orange Hall)	S. Lanark	Jan.	31st.

SPEAKERS' SUBJECTS.

ANDERSON, DUNCAN C., Rugby.—"Soil Cultivation," "The Bacon Hog," "Horse Breeding," "Care of Grass Lands," "Cattle Raising," "Care of Manure," "Green Crops as Fertilizers."

Evening Subjects.—"The Farm as an Investment," "Our Country."

BARR, G. H., Watford.—"The benefits of Co-operation and Concentration in Dairying," "How Milk is Affected by its Surroundings on the Farm, and the results in the Factory," "Cheese Makers and Cheese Factories as they Should be," "Cream Separation and Butter Making," "The Possibilities of the Boys on the Farm."

BEAM, LILY M., Black Creek. "Scientific Butter Making on the Farm," "Cheerfulness in the Home," "The Nutritive Value of our Common Foods," "Home Architecture."

CAREY, P. J., Cobourg.—"The Handling and Marketing of Fruit." "Growing Fruit from a Commercial Standpoint.

CASTON, G. C., Craigburst.—"Problems of the Soil," "The Importance of Succulent Food in the Feeding of Live Stock," "Our Export Bacon Trade, How to Maintain and Increase it," "Orchard Fruits; the best varieties and how to grow them," "Cold Storage and the Transportation and Marketing of our Perishable Products," "Picking, Packing and Shipping Apples to Home and Foreign Markets."

CLARK, J. W., Onondaga.—"Hatching and Rearing Chickens Naturally and Artificially," "Suitable Breeds of Chickens and how to Select them," (Illustrated by living specimens.) "Fattening Poultry for the English Market." "How to breed and Feed Hogs for Market with Profit." "Management of Manure in Retaining Soil Moisture."

Evening Subjects.—"Some Common Mistakes in Poultry Raising," "How to Properly Kill, Pluck and Shape Poultry for the Export Trade," (Illustrated). "Management of the Honey Bee."

COTTRELLE, G. R., Milton.—"Poultry for Profit," "How to get Eggs in Winter," "Preparation for Market," "Poultry Houses," "Hatching and Raising Chickens Naturally and Artificially."

DRUMMOND, D., Myrtle.—"Improving a Grade Dairy Herd," "Development of a Dairy Female from Birth to Maturity," "Feeding," "Rotation of Crops," "Pork Production."

DRURY, ERNEST C., Crown Hill.—"Raising Calves for Beef," "Soil Fertility and How to Maintain it," "High vs Low Farming," "Farming as a Profession."

ELFORD, F. C. Holmesville.—"Common Sense Hog Feeding," "Alfalfa, its Uses and Abuses," "The Chick from Shell to Crate," "Fattening, Dressing and Marketing Chickens."

Evening Subjects.—"Boys," "Our Agricultural College."

ELLIOTT, ANDREW, Galt.—"How to Maintain Moisture and Fertility in the Soil," "Clover and Clover Hay," "Corn and Silage," "Roots," "What do we do with with our Crops?" "Better Factories and Better Cows Needed," "The Cow we Want," "More Sheep Needed," "The Bacon Hog," "Concrete."

Evening Subjects.—"Sugar Beets," "Making the Most of our Farms."

FIELD, R. H., Addison.—"Care and Growth of the Dairy Cow," "The Profit in Keeping a Dairy Herd," "Corn and the Silo," "Useful Hints on the Bacon Hog," "Soil Cultivation and Clover," "The Plant and What it Feeds Upon."

Evening Subjects.—"Farming as an Occupation," "Where there 's a Will, there 's a Way."

FRASER, W. S., Bradford.—"Corn as a Fodder Crop," "Clover; its Value to the Farmer," "Cultivation of the Soil," "Management of Sheep," "Underdraining," "Noxious Weeds on our Farms," (illustrated); "Grains and Fodder Crops," (illustrated.) "The Bacon Hog."

Evening Subjects.—"Home Life on the Farm," "What Farmers Need," "Home Dairy."

GARDHOUSE, JOHN, Highfield.—Horse Breeding for Profit," "Care and Management of Horses," "How to Select and Feed Beef Cattle," "Care and Management of Sheep," "Raising Feed for Live Stock."

Evening Subjects.—"How to Improve Present Farm Conditions," "How to Interest Young People in the Farm."

GEE, MYRON A., Fisherville.—"Soil Cultivation," "Clover Growing," "Hog Raising," "Sheep Management," "Farm Poultry."

Evening Subjects.—"Poultry Keeping," "Elements of Success," "Agriculture as a Profession."

GLENDINNING, HENRY, Manilla.—"Cultivation of the Soil and Rotation of Crops," "Underdraining," "Weeds and How to Destroy them," "Grasses for Pasture," "Clover, the Farmers' Friend," "The Growing of Red and Alsike Clover for Seed," "The Dairy Cow," "Breeding and Feeding of the Bacon Hog," "Feeds and Feeding," "The Farm Water Supply," "Spraying for Insects and Fungous Diseases."

Evening Subject.—"Beautifying the Home."

HALLMAN, A. C., Breslau.—"How to Improve our Live Stock," "Care and Feeding of Live Stock," "The Bacon Hog and Export Trade," "Cultivation of Corn, and How to Construct a Round Cement Silo," "Cultivation of the Soil and Clover," "Growing Sugar Beets for Commercial Purposes," "The Farmers' Fruit and Vegetable Garden," "The Cream Separator and Home Dairy."

Evening Subject.—"A Gold Mine on Every Farm."

HOLTERMANN, R. F., Brantford.—"How Shall we Secure Quality and Quantity of Honey?" "Management and Prevention of Swarming of Bees," "A Hive and What we Require in it."

Evening Subjects.—"Lessons in the Life History of the Bee," "Beauties in Nature, or Nature Studies."

HUNTER, IDA M., 52 McKenzie Crescent, Toronto.—"Selection and Preparation of Food," "Education of Our Girls," "Domestic Science," (with practical demonstrations.)

HUTTON, G. H., B S.A., Easton's Corners.—"Breeding and Feeding for Bacon," "The Egg Through the Incubator to the Home or Foreign Market," "Egg Production in Winter," "The Garden on the Farm," "Education for the Farmers of the Future."

JONES, HAROLD, Maitland,—"Cultivation and Care of Orchards," "Injurious and Beneficial Insects," "Fungi—Spraying Mixtures and How to Apply Them," "Successful Potato Growing and Treatment for Blight."

Evening Subject.—"Our Friends the Birds."

KINNEY, MRS. A., Grandview.—"Home-made Bread and the Flour we Use," (with simple demonstration of testing flour), "One Week with the Farmer's Wife Making Butter," (Season of the year to be chosen), "Our Women's Institutes as a School of Domestic Science," "Evenings at the Homestead," "The Modern Home."

KYDD, W. F., Simcoe.—Horse Raising and Requirements of the Market," "Breaking the Horse and Fitting for Market," "Grape Culture," "Strawberry Growing," "Raspberry and Blackberry Growing, with System of Paying Pickers," "Care of the Young Plum Tree," "Management of Fairs."

LEE, ERLAND, Stoney Creek.—"Lessening the Injurious Effects of Dry Weather on our Crops," "Breeding and Feeding the Dairy Herd," "Corn and the Silo," "Care of Milk for Cheese Factory or Creamery," "Cream Separator and Butter Making on the Farm."

Evening Subject.—"The Use of Farmer's and Women's Institutes."

LEWIS, F.M., Burford. —"The Farmer's Orchard," "Clover, the Key to Successful Farming," "Soil Moisture ; its Importance." "Humus ; its Value in our Soil," "Farm Poultry," "Green and Barnyard Manures ; their Care and Application."

Evening Subject.—"The Farm Home."

LICK, ELMER, Oshawa.—"The Handling and Marketing of Fruit," "Growing Fruit from a Commercial Standpoint."

MCALLISTER, MISS HELEN, Coventry.—"Butter Making, Private or Co-operative," "Cheese Making at Home," "The Farm Garden," "Women's Institutes," "Influence of the Home."

MCNEILL ALEX., Walkerville.—"The Fruit Marks Act ; its Effect on Foreign and Domestic Trade," "Export Trade in Apples and Pears," "Spraying for Insect and Fungous Diseases," "Apple Culture," "Cold Storage Buildings and Fruit Houses," Modern Methods in Fruit Growing," "Packing and Shipping Fruit."

Evening Subjects.—"Lights and Shades of Farm Life," "Fruits and Flowers on the Farm," "Some Social Problems," "How to get the Most out of our Farm."

MCTAVISH, MRS. J. S., North Bruce.—"Bread Making," "Home Dairying,—the Making of Butter and Cheese," "The Aim and Objects of Women's Institutes," "Kindness and Economy in the Home."

MADDOCK, MISS BLANCHE, Guelph.—"Science of Butter Making," "Bread Making," "Our Women's Institutes ; how to make them Interesting," "A Talk on Digestion, with Simple Demonstrations in Cooking," "Bacteria and some of their Effects on the Home and Dairy," "Domestic Science," "Adaptation of Flowers to their Surroundings and their Cultivation."

MASON, T. H., Straffordville.—"The Hog as a Money-maker," "Care and Feed for Dairy Cattle," "Growing Corn for Grain and Silage," "Butter Making," "Red Clover."

Evening Subjects.—"Poultry Raising for Boys and Girls," "Changing Conditions in Canadian Agriculture."

MILLAR, MISS BELLA, Guelph.—"Butter Making," "The Hand Cream-Separator ; its Use and Abuse," "Our Dairy Work in General," "Emergencies."

MORRIS, MISS, S. A., 29 Harbord Street, Toronto.—"Meats ; Composition and Cooking," "Eggs ; their Uses as Food," "Cereals and how to Cook them," "Diet for the Sick," "Comparison of Animal and Vegetable Foods."

NASH, C. W., 108 Waverley Road, Toronto.—"Chemistry of the Soil," "How Plants Grow," "Evolution of Domestic Animals," "The Value of our Birds," "The Enemies of the Wheat Plant," "Our Insect Pests," "Nature about the Farm," "The Enemies of the Pea Crop and How to Deal with them."

ORR, J. E., Fruitland.—"Some Insect Enemies of the Orchardist," "Mistakes made in Spraying," "Notes on Plums," "Controlling the Codling Moth," "Cover Crops in the Orchard," "The Black Knot and how We Exterminated it in our Township," "The Culture and Care of Fruit Trees," "Some Common Diseases of Fruit Trees," "Can we Overcome 'Off Years' in our Orchard?" "Why How and When to Prune."

PEART, A. W., Burlington.—"Apples, Pears, Plums, Blackberries, Raspberries, Currants; their Varieties, Cultivation, Marketing, etc.," "Insects and Fungi Injurious to our Orchards and Methods of Combating them," "Underdraining," "Mangement of Soils," "The Application of Fertilizers."

Evening Subjects.—"Agricultural Education," "Leaks on the Farm."

RACE, T. H., Mitchell.—"Planting and Care of Commercial Orchards"; "The Farmer's Fruit and Vegetable Garden"; also 5 minutes talk on the following subjects: "Pruning"; "Grafting"; "Roses"; "Bedding Plants"; "Care of Flowers"; "Climbing Plants"; "The Lawn"; "Spraying." Evening Subjects:—"The Farmer's Home Surroundings"; "The Social Side of Farm Life."

RAYNOR, T. G., Rose Hall.—"Feeds and Feeding" (Illustrated) "How to Build up a Herd or Flock;" "Soiling Stock," "Dairying as it Applies to the Producer," "Some Common Diseases Affecting Stock," "The Plant and the Soil," "Two Important Crops, Corn and Clover," "The Production of Pork." "The Uses of Concrete."

Evening Subjects.—"Mistakes in Farming," "Agricultural Development.

REED, DR. HENRY, G., Georgetown.—"Breeding Horses to Meet the Present Market," "Milk Fever in Cows and Preventive Treatment," "Influence of Natural Laws in the Breeding of Live Stock," "Diseases of the Digestive System of Cattle," "Diseases Likely to be Produced in Horses by Improper Feeding."

Evening Subjects.—"The Care and Education of Young Horses," "Some Reasons why the Boys should Stay on the Farm."

REYNOLDS, A. J,, Scarboro Junction.—"Objects and Methods of Cultivation," "Corn and the Silo," "Summer and Winter Dairying," "Clover Growing," "Application of Manure," "Some Essentials for a Successful Institute."

ROSE, MISS LAURA, Guelph.—"Butter Making as an Art," "What Milk Is and How it should be cared for," "Make Dairying Pay," "The Making of Bread and Buns," "A Chat with Housekeepers on Housekeeping," "Why I have a Garden," "As Others see Us," "One Eye in the Field and the Other in the Town," "From Ocean to Ocean."

SHEPPARD, F. A., Queenston.—"The Growing of Fruit Trees; Planting, Cultivation, Grafting, Budding and Pruning," "Varieties of Small Fruit and the Cultivation," "Tomato Growing," "Summer Cultivation and Conservation of Soil Moisture," "Concrete for Farm Buildings."

Evening Subjects.—"The Effect of the Codling Moth on the Apple Crop," "The Advantages of Keeping Books on the Farm."

SHEPPARD, MAJOR JAMES, Queenston.—"The Packing and Sale of Apples," "Planting and Care of Orchards," "Four Reasons Why we Till the Soil," "Forty Years' Experience in Corn Growing," "Tomatoes for Home Market," "Ensilage and the Round Silo," "The Export Bacon Trade."

Evening Subjects.—"Propagating Fruits, Grafting, Budding, etc.", "Three Historical Days on the Niagara River."

SHERRINGTON, A. E., Walkerton.—"How to Make an Orchard Profitable," "Planting, Pruning and Grafting," "Spraying as a Preventive of Insect and Fungous Diseases," "Soil Cultivation."

Evening Subjects.—"The Cultivation of Small Fruits," "The Care and Feeding of Poultry, and Preparing it for Market," "Beautifying the Farm."

SLEIGHTHOLM, F. J., Strathroy.—"How to Make Choice Butter," "The Hand Cream Separator," "Skim Milk; its Value and How to Feed it," "Foodstuffs: their Composition and Combinations," "Successful Swine Feeding," "The Cow; Rearing, Management and Selection."

Evening Subjects.—"The Son's Out-of-School Education," "Ten Acres Enough."

Smith, Miss Agnes, Hamilton.—"Principles of Cooking (with simple demonstrations)," "Food in its Relation to the Body," "Domestic Science," "The Sanitary Home," "Needs of the Home of the Present Day."

Smith, J. H., Langbank.—"Ontario as a Feeding Ground," "The Clover Family," "The Soil and its Cultivation," "The Farm Garden," "What to Sell," "Keeping Farm Accounts, Records and Stock Registers," "The Sun at Work on a Hundred-Acre Farm."

Evening Subjects.—"Farming the Noblest Occupation," "Canada for Canadians."

Somerville, N. G., Brockville.—"Why and How to Control Temperature in Curing Rooms," What the Farmer of To-day Must do to Secure More Profits in Dairying," "Proper Care of Milk for Cheese Factory, Creamery and Private Dairy," "Use of the Babcock Test, its Value on the Farm and at the Factory," Paying for Milk According to Quality."

Evening Subject.—"Influence of the Farm Home."

Stevenson, R. S., Ancaster.—"A Practical Talk on Dairy Cows; Breeding, Feeding, Selecting, etc.", "Growing the Corn Crop and Handling it to the Best Advantage," "The Growing of Root Crops," "The Cream Separator on the Farm," "The Farm Water Supply."

Thompson, Robert, St. Catharines.—"Rearing Poultry." "Incubators and Poultry Houses," "Swine Breeding and the Export Bacon Trade," "Pointers for Growing Corn for Grain and the Silo," "Small Fruits and Fruit Trees," "Gathering and Marketing Fruit," "Cold Storage,"," "Underdraining."

Evening Subjects.—"The Future Farmer and his Education," "Home Life on the Farm."

Torrance, Mrs. Elizabeth, Chateauguay Basin, Q.—"The Need of Housekeeping being placed on Better Business Lines," "The Apple in its Relation to Domestic Comfort." "Vegetables: some Points on Cooking them" (demonstration if wished and arranged for), "Our Schools; why not some Thought for a Landscape Effect?", "The Question of Lunches for School Children."

Zavitz, C. A., B.S.A., Guelph.—"Grains, Grasses and Clovers for Pasture Purposes," "Results from Growing Oats, Peas, Barley, Wheat, in Various Mixtures for Fodder and for Grain," "Good Seed in its Relation to Good Crops" "Varieties of Farm Crops most Suitable for Ontario," "Some Interesting Results in Potato Growing," "Results of Agricultural Experiments Conducted on 3,000 Ontario Farms in 1902," "Five Minute Talks on Subjects Relating to Field Agriculture." (Subjects to be proposed by audience.)

Evening Subjects.—"Practical Work of the Ontario Agricultural College," "Agricultural Experiments in Ontario."

Zufelt, L. A., Chesterville.—"Production and Care of Milk," "Care of Milk from the Cow to the Factory," "The Duty of the Patron to the Cheese Factory and Creamery," Five Minute Talks on any of the following subjects:—"Milk," "Cream," "Butter Fat," "Cheese," "Skim Milk," "Whey," "Milk Cans," "Wholesome Surroundings," "Cleanliness," "The Maker."

LIST OF RESERVE SPEAKERS.

The following is a list of reserve delegates, whose services may be obtained by local Institutes at the time indicated after each name, and on the following terms: The legitimate expenses of the delegate must be borne by the Institute employing him or her from the time he or she leaves home until he or she returns thereto, together with a per diem of $2.50 per day, for the time the person is absent from home, Sunday excepted.

Cottrelle, G. R., Milton, February.
Fraser, W. S., Bradford, February.
Field, R. H., Addison, February.
Gee, M. A., Fisherville, January and February.
Hutton, G. H., B.S.A., Easton's Corners, December and February.
Jones, Harold, Maitland, February.
Kinney, Mrs. A., Grandview, February.
Kydd, W. F., Simcoe, December.
McAllister, Miss Helen, Coventry, any time.
McTavish, Mrs. J. S., North Bruce, January.
Morris, Miss S. A., Toronto, December and January.

NASH, C. W., Toronto, December and January.
HOLTERMANN, R. F , Brantford, any time.
SHEPPARD, F. A., Queenston, December.
SHEPPARD, MAJOR JAMES. Queenston, January.
SOMERVILLE, N. G., Brockville, January and February.
SLEIGHTHOLM, F J., Strathroy, February.
STEVENSON, R. S., Ancaster, February 1st to 20th.
THOMPSON, ROBERT, St. Catharines, December and January.

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ANNUAL REPORT

OF

ONTARIO

FAIRS AND EXHIBITIONS

FOR THE YEAR

1902.

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO:
PRINTED BY L. K. CAMERON,
Printer to the King's Most Excellent Majesty.
1902.

WARWICK BRO'S & RUTTER, Printers.
TORONTO.

ANNUAL REPORT

OF

FAIRS AND EXHIBITIONS

1902.

To the Honorable, the Minister of Agriculture:

Sir,—I have the honor to present herewith the Second Annual Report of the Fairs and Exhibitions. In addition to this we have placed in the same volume a report of the First Agricultural Societies, by C. C. James, M.A., Deputy Minister of Agriculture for Ontario; a Model Prize List and set of Rules and Regulations prepared by the different Agricultural Associations of the Province; a list of the Expert Judges who were sent out this year by your authority, and who judged at some sixty Agricultural Exhibitions. You will also find the opinions of some of these judges on the work done, with suggestions for future work. There is also appended a report of the Ontario and Durham Model Fair, held at Whitby.

I believe all the matter contained herein should be of interest to the members of Agricultural Societies and to others interested in the promotion of the Science of Agriculture.

I have the honor to be, sir, your obedient servant,

G. C. CREELMAN,
Superintendent of Agricultural Societies for Ontario.

Toronto, November 1st, 1902.

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REPORT OF THE CANADIAN ASSOCIATION OF FAIRS AND EXHIBITIONS.

ANNUAL MEETING.

The annual meeting of the Association was held in the City of Toronto, February 19th and 20th, 1902. The first session was conducted in the Council Chamber of the Old Court House on Adelaide Street East, but this was soon found to be too small to accommodate the large number of delegates. The second and subsequent sessions were held in Richmond Hall, Richmond Street West. Never before in the history of the Association were the Agricultural Societies of the Province so well represented.

There were also present at the meetings representatives from the Ontario Department of Agriculture, the Dominion Department of Agriculture, the Ontario Agricultural College, the Farmers' Institutes, Horticultural Societies, Live Stock Associations, Fruit Growers' Association, and others.

The papers read and addresses delivered were of unusual merit, and the discussions that followed were sharp, clear and to the point. As a direct result of this meeting, greater harmony has prevailed among our Agricultural Societies, better work has been accomplished at the Fall Exhibitions, and the Canadian Association of Fairs and Exhibitions has been brought prominently before the people of the country as it never was before.

PRESIDENT'S ADDRESS.

By J. T. Murphy, Simcoe.

Gentlemen,—Another year having elapsed, we meet again in annual session to discuss measures on the welfare and progress of our various societies, and I avail myself of the privilege of addressing you on some of the matters that will likely come before us, trusting that in my weak effort some thoughts may be suggested that will enable us to enact such legislation as will be conducive to still greater usefulness and prosperity.

It seems to be the opinion of many versed in the working of Agricultural Societies that the present Act should be reorganized and made suitable to present needs. I entirely agree with this view of the question. I am perfectly satisfied that while some of the fairs are doing useful work and are in every way progressive, there are a great number that barely exist and accomplish no good purpose. In many instances the premiums offered do not amount to much more than the sum granted by the Government, and, to make matters still worse, the society compromises with the prize-winners at 25, 40 or 50 cents on the dollar. To say the least of it, this is not business, and any society pursuing this course must eventually cease to exist. To gain the confidence of the public, fairs must be managed the

same as any other business transaction, viz.: pay one hundred cents on the dollar.

In order to overcome many of the abuses occurring in connection with our fairs, and thus strengthen those doing legitimate work, I am strongly of the opinion that a Superintendent should be appointed by the Government, and given general supervision of the work. Many of the representatives now here will no doubt remember that this question came up in our meetings at various times years ago, and the Association suggested to the Hon. Minister of Agriculture the appointment of such an officer. The Hon. Minister, however, thought at that time it was inopportune, as the country was not ripe for it, and was averse to the appointment of more officials. As time has gone, I am sure we all feel that something ought to be done, and I trust that at this session active steps may be taken to impress more firmly on the mind of the Hon. Minister the necessity of the same.

Another subject that will come before you is that of uniting the Fair and Institute Systems. This no doubt will cause a wide discussion, as opinion regarding the same will vary, some contending that in their sections the union would be very effective, whilst others could conclusively show that to unite would be detrimental to both, many of the most prominent workers in the Institutes utterly refusing to join the fair or take any part therein. If this matter is left optional with societies and Institutes, as intimated, where united, they might be very successful if under proper management, but if made compulsory I am afraid it would be a death blow to many of the fairs and Institutes now doing each their separate work. One of the main reasons advanced by Mr. Hodson for the uniting of the two systems is that a good deal of money could be saved. If in this connection he refers as well to the salary of Secretary of the various fairs, I think there would be a wail all over the Province, for I do not know in what occupation the salary is as small as that paid in the various societies, and, if more duties were added to the position, the general result would be that both the Fair and Institute Systems would suffer, as no person, be he farmer or business man, could so neglect his farm or business for the mere pittance generally received for such services.

I see by the public press that the cattle breeders purpose having a proper prize list made out, and, if possible, adopted by the various fairs in the Province. This is a very wide project, and one very difficult to handle, as the fairs in various sections must be governed by the circumstances surrounding them. However, as the said list is to be presented to this meeting for your inspection and approval, I can safely say that due care and thought will be given the subject.

As you are all aware, a great cause of dissatisfaction at many fairs is that of judges. In very many instances when the selection of same are being made by the board, too frequently a director will, without giving the matter that thought which the interest of the society demands, nominate a friend, who may be totally unfit for the position. This fact may be very apparent to a majority of the board, but from a sense of courtesy and not wishing to offend either party, the appointment stands. The incompetent judge thus creates trouble, and exhibitors as a natural result lay the blame on the management, as the result of favoritism or the formation of a ring. I would strongly advocate the appointing of judges by the selection of a committee composed of the most thoughtful and careful members of the board, who, having no axes to grind, can thus secure the most competent men. Nothing will strengthen a society more than its selection of judges, and I would in all cases, where the society is in a position to do so, recom-

mend that expert judges be selected. I find no trouble in our society in getting such experts. I think our fair was one of the first in the Province to inaugurate the one-judge system, we having that in all classes but that of light horses, and in doing so we adopted the expert. The gentlemen come to us very cheerfully, we paying them merely railroad fare and entertaining them as guests while with us. By thus showing these gentlemen that we highly appreciate their kindness in looking after their comfort and pleasure, and not allowing them to come and go as if they owed us a debt in thus being graciously allowed to act in that capacity for us, we thus secure not only their services, but it gives to our society a standing in the community, the confidence of the exhibitors and public, and we also gain the respect and good-will of the gentlemen themselves, thus creating throughout the various sections in which they live and through which they move friends who gladly sound our praise.

A very frequent cause of dissatisfaction and strife in many societies is that created by the towns gaining control at the annual meetings and electing full representation. This I know has been the result, and in many societies has nearly resulted in disorganization.

To avoid this and thus do away with any friction the rural municipalities should be granted equal representation. This can easily be done, as, for instance, where there is one town or village and two townships, each would be entitled to three (3) directors, this doing away with all thought of any one section ruling the fair, thus working in unison one with the other, the result being that, whereas in the first instance ill-feeling was engendered, in the latter harmony and success prevail.

There is a vast difference of opinion regarding fairs and their management. You will find some contending that the District Societies should be abandoned, and, on the other hand, many advocating the doing away with Township Societies. These various opinions will continue to exist, and I see no way to overcome the same, unless the Government sets a certain standard for each society, and when such is not accomplished the grant to same should be withheld, be the same a district or township society.

Then there comes up the matter of attractions, such as horse racing, or, more generally known in fair parlance as "speeding in the ring," balloon ascensions, side shows, attractions before the grand stand, etc. These are subjects seemingly difficult to handle, many societies contending that without them they would be unable to exist, while others show conclusively that where such are not introduced, but the fair conducted as an agricultural one, and on educational lines, success has followed in every instance. As under the existing Act there seems to be no directions regarding such matters, we can only go on and be guided by the desires of the community interested, but striving always to keep such attractions respectable and elevating.

As all these matters are subjects of vast importance to the societies and the community at large, and it is only by free and open discussion that what is for the best for all is obtainable, I trust that in the debating of all questions submitted the usual harmony may prevail, and the end attained may result in placing our association on a firmer basis, and all our societies be enabled to take higher rank in the future than in the past, thus benefiting the entire community.

The reports of the various committees appointed at our last session will be presented to you at this meeting, and no doubt will receive your most earnest consideration.

In concluding I not only express my own pleasure, but that of the

association as well, in having with us the Hon. Minister of Agriculture, whom we all know is doing so much to advance the interests of agriculture in the Province, as well as the Deputy Minister, Mr. James, he having at previous sessions rendered us valuable assistance. We also desire to thank the other gentlemen who have kindly consented to address us on the various subjects given in the programme. Great credit is due Mr. Hodson, Dominion Live Stock Commissioner, for his untiring efforts to lead us up and out, and although he no doubt has staggered us somewhat by his propositions, yet we trust much good may be the result. I am sure I only voice the feeling of the association in saying that to Mr. Creelman, our Assistant Secretary and Editor, we tender our warmest thanks for the manner in which he has assisted us, having, through his efforts and the good offices of the Hon. Minister and his department, put us in a foremost position. I therefore hope and trust that, with the increased efforts being put forth, much greater success may be obtained.

ADDRESS BY THE HON. JOHN DRYDEN,

Minister of Agriculture for Ontario.

Mr. Chairman and Gentlemen: I do not know whether it strikes you as it does me, but in every line of business, and even in connection with the Government of our country, everybody is talking about progress and improvement. Improvement is in the air everywhere. It is a popular word to-day, and it is a good word. Permit me to say that I do not know of any greater need for this improvement, and for improved methods, than you will find in the conduct of our Agricultural Societies all over the country. The law under which these societies exist gives you a very wide scope. If you will allow me, I will read the section from the Agriculture and Arts Act, that defines the scope of the work of Agricultural Societies:

"The objects of District and Township Societies shall be to encourage improvement in agriculture, horticulture, manufactures and the useful arts:

(a) By importing and otherwise procuring seeds, plants and animals of new and valuable kinds;

(b) By offering prizes for essays on questions of scientific inquiry relating to agriculture, horticulture, manufactures and the useful arts;

(c) By awarding premiums for excellence in the raising or introduction of stock, for the invention or improvement of agricultural or horticultural implements and machinery, for the production of grain and of all kinds of vegetables, plants, flowers and fruits, and generally for excellence in any agricultural or horticultural production or operation, article of manufacture or work of art;

(d) By carrying on experiments in the growing of crops, the feeding of stock or any other branch of agriculture, or by testing any system of farming through arrangement with one or more of the farmers of the municipality in which the society is organized."

That is the scope laid down by the law, and I was just wondering how many Presidents and Directors of Agricultural Societies have ever heard of these things. At all events, whether you have or not, you have practically settled down to work under paragraph "c," while clauses "a," "b" and "d" are ignored altogether, and have devoted your attention entirely to the holding of an exhibition and the offering of prizes for live stock and

other articles. The difficulty is just what the President has suggested in his paper—that many of these fairs have degenerated to what I call spectacular amusements. I use the term advisedly, for those who attend such exhibitions do so just as they would go to a circus or theatre, at so much per head. I do not say that all the fairs have degenerated in this way. The President here is connected with an association that has never employed these special attractions. They would not allow even a merry-go-round on the grounds to please the little children. This society has been carrying out the provisions of the Act that I have read to you, the object being to promote the interests of agriculture. They have made the presentation of these articles to the people their own attraction. What is the result? The last time I was there I found that everybody within these two ridings (for both are combined and the fair is held in the town of Simcoe), with their families, was on the ground to meet each other and learn what they could. When you introduce this other element, to which a considerable portion of the people is entirely opposed, and ask a man to bring his family and to walk down an avenue, on each side of which you have all kinds of gambling devices, etc., what is the result? I find that the young lads are always attracted to this avenue where it exists. The result is that before they get through they lose most of the money which you had given them to spend in a legitimate way. The education they receive in this way is all wrong, and you cannot wonder that the best people in the country feel that they cannot endorse that kind of thing. Still, the directors do not seem to know what is the matter. They say the people are not interested like they used to be. Gradually the attendance dwindles away, until they are obliged to go out of existence. It is true that out of curiosity a man will often go to see two dogs fighting, but he would not think of taking his family year after year to see a dog fight. While you are on the ground there is a hurrah made because three or four horses are starting off in a race. Of course everybody runs to see what it is, just as humanity does everywhere. You may not be particularly interested, but you go to see just the same because other people are going, and the directors make the mistake of assuming that everyone is interested in this sort of thing. A little amusement is all right, but what I mean to say is that when you run your organization entirely in that direction and make that the main thing, you are taking it away from the best interests of the people, and from the objects laid down by the statute, and that the end of it all is ruin. If you could examine the returns in my department you would find the record shows that where a society gives itself away to that sort of thing and puts the promotion of agriculture in the background, the chances are that in the end it will go out of existence altogether.

The original idea contemplated, I fancy, by those who framed this law I have read to you was that what the individual could not do the society might very well undertake to do in the interests of the whole community. The primary thought of it was co-operation, in the shape of an Agricultural Society, which should promote the best interests of agriculture. It contemplated that seeds, plants and animals that were too expensive for the single individual (as is the case to-day in some districts) might be purchased and introduced by these organizations; and the money guaranteed to the society by the Province was intended to be used in this direction among others.

Further than this, it was evidently contemplated by the framers of the Act that instruction should be given, for you will see that prizes are suggested for essays. If an essay is read, I assume it will be discussed, and

therefore the thought evidently was that the discussion of subjects relating to agriculture would be entered upon, and much good result. Then in the last paragraph we have provision for experiments. If experiments are carried on, they would need to be reported upon, and this would also bring out discussion.

The gentlemen looking into my face to-day perhaps do not realize as I do the hunger and thirst that exists for information all over the country—it is not for amusement, but for information. If these agricultural societies will undertake to give this information they will be ten times as popular as they are to-day, or ever have been.

This is the work that has been undertaken in these latter days by the Farmers' Institute System. I have often said that the Farmers' Institute and the Agricultural Society should be dovetailed together. A long time ago I made a statement like that. What does an Agricultural Society undertake to do by bringing together these animals and presenting the best products? Some people seem to think the object is that they may give prizes to this man and the other; but the giving of these prizes is only a means that is used towards another end. The end and object of it all, as contemplated by the framers of the Act, was to present the proper ideals to the people, so that they might know exactly what was the best thing and what they ought to produce in the best interests of the country. That was the idea contemplated by the framers of the law. But the Agricultural Society stops there; that is all it can do. I can fancy a young man who is without information, but has become interested in agriculture, looking on and saying: "I should like to know how to produce them, but your society does not give the information. I should like to know what they mean by putting that animal first; the other one looks better to me—but I can get no information." The only way this young man could get the information he seeks would be to attend the meeting of the Farmers' Institute, where these matters are discussed. The Farmer's Institute, therefore, supplements the Agricultural Society, and the one ought to be dovetailed into the other—that is if you are endeavoring to reach the object I have set up in my own mind as being the aim and desire of every Agricultural Society.

The President's message brings up this question of union, and Mr. Hodson has also referred to it in previous addresses. I want to ask whether there is any reason in your own minds why, if it is at all possible, these two organizations should not in some manner come together, and the one be made in a better way than ever before, the supplement of the other? Is there any reason why the same work of instruction should not be carried on by the Agricultural Society? You have probably not been thinking about it; but if I am right in saying that the desire of the people is for information and instruction, should not the Agricultural Society undertake to do what it can in that direction, and if the societies generally would put something of this kind in the place of the so-called amusements, I have only to say that I will guarantee that it will prove an attraction a hundredfold more valuable than the other. We have proved that for you already. Most of you have been at the Winter Fair in the City of Guelph, where we have endeavored to give this instruction at the time the prizes are awarded. You have seen how the people have clamored to receive it; you have seen the lecture room filled to overflowing. That proves it. If that be so, it is worth while your considering whether something of the kind cannot be done by the Agricultural Societies by way of educating the people, the object being the improvement of the general agricultural production of the country. In the discussions you may have, it will be well to keep this

prominently before your mind, and do not allow anybody to lead you away from it.

Now, how is this to be accomplished? First, I think, by the presentation of proper ideals to the people; second, by giving them correct information as to why these are the right ideals, and, third by giving them as much instruction as you can as how best to produce the articles you have presented. These things must go together, because without the information you are always apt to have incorrect ideals.

I wish I had a letter here that I thought I had in my pocket from a gentleman living in Northumberland County. These Agricultural Societies have been in full blast for more than fifty years, and yet this pathetic complaint comes from this man. He said: "I go to nine or ten exhibitions in this part of the country, and it is seldom we find a judge who really knows the difference between a Shropshire, a Hampshire Down and a Southdown." If that is so, and these judges undertake to do their work without any knowledge, don't you see that in that way you present incorrect ideals before the young men. That is to say, they give the prize for the best Shropshire to a sheep that ought very likely to be classed as a Southdown. I bought a sheep from this very man, which was supposed to be a Shropshire, but had more of the characteristics of the Southdown. He probably needed information himself on this subject. I do not want that the agricultural society by this kind of thing should undo what we are endeavoring to do by our other organizations. There ought to be some way to reach these people and give them this instruction. Send a man who is a good judge of sheep to one of these exhibitions, and ask him after he is through with the judging to empty the ring and tell the people why he placed the animals as he did. By this means you will soon get the right ideal in the minds of the people; that is, if the judge is right himself.

In many places it seems, so far as one can judge, that there is really no need at all for an exhibition in the ordinary sense. What I mean to say is that you actually cover some districts with exhibitions. They come one after the other in places only four or five miles apart, perhaps. All this takes the people away from their work at a very busy season and accomplishes nothing. The people generally are not interested; but a few who are interested in taking the prizes go to these exhibitions, bring away a certain sum of money and are perfectly satisfied. Perhaps, also, the hotelkeepers and some of the storekeepers like the people to come together for business purposes; but these are side issues. Let me make a suggestion just here: supposing you observe that in a particular section improvement is needed along some particular line. In the case I have referred to there is need of instruction in reference to sheep. Supposing there is a similar need in reference to poultry or to bacon hogs. Let the exhibition turn itself in this direction, and try to improve the general production in that district in these departments. Let the society offer prizes in these classes only. Let them announce that lectures will be given on these topics. By this means you will bring out the people who want the information, and you will then undertake to do just what we are undertaking in connection with our Winter Fair. You then combine the work of the Institute and the Agricultural Society and put them together, as they ought to be. If you want to give the information, you must have the animals before you. Provide some kind of a building, if you like, where these lectures can be held, and see that the judges are competent to give the information required. This need not necessarily be in the month of September. We have got in the habit of assuming that these exhibitions must take place in the

fall of the year, because we have got away from the original idea, which was the promotion of agriculture and the betterment of the products of the country. We are drifting away from that thought, and are getting to run these exhibitions so that we must have them all in the fall. This is not necessarily the case. If you are following the line I have suggested, you may decide that the right time would be in the latter part of May or the beginning of June, when you have long days and quiet evenings, can get about easily, and have more time. The thought I have is that I should like to move the agricultural societies out of the beaten track or rut that they have made for themselves, which, as my old friend Haycock used to say, "gets deeper and deeper with every generation." Let us try to move out of it. You might hold your Fair right in the winter time in some places just as well where you have the accommodation. If this were started by some ambitious Agricultural Society it would soon be followed in other parts of the country, and would eventually get to be a general thing, because it would be seen to be in the direction I have indicated—towards improvement.

I think that our agricultural societies ought to be directed towards similar aims; they ought to have similar and definite purposes before them, and accomplish in that way definite results for the best interests of our country. We should thus unify our methods and raise the standard of production. The object to be atttained will, of course, vary in different districts. In one district it may be that the fruit interest is paramount. Then let your attention be turned in that direction. Or it may be that the people want instruction in dairying. A deputation of dairymen waited upon me this morning. They said there had never been a time in the history of the country when the people needed information on dairy subjects more than they do just now. They are drifting away and becoming careless in their methods.

I want to say that I have been very much delighted with the results you have been able to accomplish by this association up to the present time. It is certainly a good thing to bring together the men who are the representative men in the various townships and counties were they live—the men who have in a public-spirited way taken hold of these societies and tried to manage them in the interest of the people. I know what it means in labor and time, and I say that you deserve every credit. It is a good thing that you should get together and compare experiences, and receive the stimulus which comes to everyone when they find that others are in the same difficulties that they experience, or perhaps can tell you how to overcome those difficulties. This is all very helpful.

I think you mentioned in your address, Mr. President, that you are coming rapidly to need an executive head. I see this perhaps even better than you can see it. I have seen the results of this in other directions. For a long time we managed the Farmers' Institute without a definite head. I imposed the duty on Dr. Mills, until it took up altogether too much of his time, and took him away from his proper work. I then suggested that we should appoint a Superintendent of Institutes, and you will bear me out in saying that from that time our Institutes have been an increasing influence for good, until we have now reached a position where the other Provinces and the American States are copying our methods and seeking to follow in our footsteps. Our influence is largely due to the fact that a Superintendent was appointed to devote his whole time to Institute work. If this association is to accomplish the desired results there must be some guiding head. You may talk about forming a circuit of fairs and sending

judges competent to explain the reasons for their awards, but the moment you come to work it out you will find you need somebody to take it in hand —to lay out the road and work out the details. It cannot be done otherwise. It is not a question of saving money merely, it is a question of efficiency. (Hear, hear.) This brings me back to where I started: It is, improvement in your methods that will lead to better production all over the country. If the selection of a proper head who will carry out your desires and wishes will lead to improved methods, it is worth while considering. I have been trying to unify all along the line. This morning I was trying to bring the Dairymen's Association and the Farmers' Institute together. Both these bodies are engaged in the work of agricultural education. I cannot separate the dairyman from the poultryman, or the producer of beef cattle from the fruit grower; we are all farmers together, are all working on the land, all get our living out of the soil, and all need the helping hand of the Government in carrying on this educational work for the common benefit.

I have not said anything to Mr. Creelman, but if he can be of any use to you in this matter, you need not hesitate to demand some of his time. The time is coming when something of this sort must be done. He is a young man, who is full of "go" and full of work; he wants to do something. I am looking for men of that kind all the time. I can find plenty of men who are willing to draw a salary, but not so many who are interested in the work they have in hand that they commence to go, so all I have to do is to pull the lines and steady them a little. Mr. Creelman has justified his appointment by his desire to do things.

There is just one other thing I wish to say: You cannot do these things all at once. What I have suggested may take a few years to work out. Do not undertake to do everything at once. The people are not accustomed to these new things, and if you go too fast they will throw themselves, like a balky horse, back in the breeching, and you cannot do anything; they will not understand you or the end you have in view. We must carry the people with us. If you just show them what you are trying to accomplish, and when they see that you have the best interests of agriculture at heart they will all join in the procession. (Applause.)

The President: I am glad to see that Mr. Dryden approves of the appointment of a proper head to take charge of this work, and since hearing his address I feel that I was fully justified in alluding to it.

Mr. Wm. Law, Tillsonburg: I have a few suggestions to make, which refer to the dispersion of authority, instead of its centralization. First, the law governing Fair Associations should be remodelled. It was suitable for the conditions that existed thirty or forty years ago, but it is altogether unsuitable for the present time. Under the law, one of the objects of Agricultural Societies is stated to be the buying or importation of pure-bred stock. That section of the Act is wholly inapplicable to conditions as they exist in our own County of Oxford at the present time, and in the older sections of the Province. I fully agree with the idea that fairs should be made educational. My suggestion would be to make the Farmers' Institutes and the Agricultural Societies one, and impose the entire duties of both on the one Board of Directors, and they will be carried out much more satisfactorily.

AGRICULTURAL SOCIETY STATISTICS.

By Capt. W. F. McMaster, Ontario Department of Agriculture, Toronto.

District Agricultural Societies.	1900.	1899.
Receipts.	$ c.	$ c.
Balance on hand as per last Annual Report (including fees returned)	14,349 30	14,884 22
Legislative Grant	39,181 00	39,410 00
Municipal Grant	11,735 15	9,629 57
Members' subscriptions and donations	30,402 48	29,263 99
Admission fees to Exhibition, rent of ground, stall etc	60,802 25	46,817 42
Money borrowed on mortgages and notes	15,752 70	18,587 88
Funds merged from other societies for Union Exhibition	9,059 85	7,672 21
Miscellaneous minor receipts	8,960 84	4,457 62
Balance due Treasurer	1,309 89	1,071 10
Totals	191,553 46	171,794 01
Expenditure.		
Balance due Treasurer as per last report	1,654 81	1,563 19
Grant to Branch Societies		32 01
Prizes paid for animals and dairy products	50,756 50	47,849 06
" field, orchard and garden products	11,258 49	10,802 41
" manufactures and improvements	2,537 95	2,136 55
" fine arts, ladies' work etc	12,662 53	12,243 55
" previous year	4,203 70	1,346 89
Grants to Union Exhibitions	5,031 64	5,464 10
Purchase of grounds, erection of buildings, interest, insurance etc	19,940 35	18,902 90
Paid for loans or mortgages	21,957 01	19,292 83
Meetings, periodicals, purchase of live stock, etc	632 69	550 07
Miscellaneous, expenses, etc	43,482 46	37,161 68
	174,118 13	157,365 24
Balance on hand	17,435 33	14,428 77
Totals	191,553 46	171,794 01

Assets.	1900.	1899.	Liabilities.	1900.	1899.
	$ c.	$ c.		$ c.	$ c.
Cash on hand	17,435 33	14,428 77	Due to Treasurers	1,309 89	1,071 10
Land and buildings	236,170 00	226,442 35	Prizes unpaid	3 564 75	1,612 91
Miscellaneous	4,087 88	6,993 63	Mortgages and notes	71,263 80	76,711 45
			Miscellaneous	8,012 06	6,672 55
Totals	257,693 21	247,864 75	Totals	84,150 50	86,068 01

Class Entries.	1900.		1899.	
	No. of entries.	Amount paid.	No. of entries.	Amount paid.
		$ c.		$ c.
Horses	16,169	20,994 57	14,977	19,215 80
Cattle	9,993	11,046 30	9,485	10,373 68
Sheep	8,043	7,138 00	7,890	6,680 91
Swine	4,565	4,361 60	5,108	4,763 75
Poultry	14,817	4,421 83	13,734	4,192 00
Dairy products	6,489	2,853 95	6,341	2,681 92
Grains and seeds	7,122	2,594 35	7,173	2,591 28
Roots and other hoed crops	13,489	2,997 92	12,603	2,835 40
Orchard and garden products	25,057	5,613 27	23,352	5,382 68
Implements and manufactures	3,970	2,532 95	3,712	2,140 60
Fine arts, ladies' work and all other objects, etc	38,204	12,660 73	41,221	12,183 55
Totals	147,918	77,215 47	145,796	73,041 57

Township Agricultural and Horticultural Societies.	1900.	1899.
Receipts.	$ c.	$ c.
Balance on hand as per last Annual Report (including fees retained)	31,270 46	35,501 79
Legislative Grant	33,802 00	34,064 00
Municipal Grant	11,122 81	11,525 47
Members' subscriptions and donations	69,801 07	66,432 99
Admission fee to Exhibition, rent of ground, stall, etc	92,585 83	83,736 27
Money borrowed on mortgages and notes	5,227 36	3,768 92
Funds merged from other societies for Union Exhibitions	6,729 28	7,754 87
Miscellaneous minor receipts	9,148 02	8,546 44
Balance due Treasurer	638 95	1,002 39
Totals	260,325 78	252,333 14
Expenditure.		
Balance due the Treasurer as per last Annual Report	1,023 21	909 38
Prizes paid for animal and dairy products	74,634 53	74,143 27
" field, orchard and garden products	17,255 14	17,236 70
" manufactures and implements	2,517 64	2,750 11
" fine arts, ladies' work, etc	16,655 48	17,254 99
Money paid for prizes awarded in previous year	3,086 89	2,765 63
Grant to Union Exhibitions	11,481 20	10,873 10
Purchase of grounds, erection of buildings, interest, insurance, etc	16,843 07	26,883 49
Paid for loans and mortgages	11,587 66	8,826 53
Meetings, periodicals, purchase of live stock, etc	9,143 22	7,509 95
Miscellaneous expenses, etc	55,466 26	50,980 76
	219,694 30	220,133 91
Balance on hand	40,631 48	32,199 23
Totals	260,325 78	252,333 14

Assets.	1900.	1899.	Liabilities.	1900.	1899.
	$ c.	$ c.		$ c.	$ c.
Cash on hand	40,631 48	32,199 23	Due to Treasurers'	638 95	921 61
Land and buildings	221,027 78	217,813 15	Prizes unpaid	2,024 89	2,006 99
Miscellaneous	3,253 78	4,718 91	Mortgages and notes	41,993 46	45,819 29
			Miscellaneous	13,132 81	13,041 64
Totals	264,913 04	254,731 29	Totals	57,790 11	61,789 53

Class Entries.	1900.		1899.	
	No. of entries.	Amount paid.	No. of entries.	Amount paid.
		$ c.		$ c.
Horses	31,303	27,901 80	30,963	26,860 19
Cattle	16,588	12,981 23	17,023	12,759 69
Sheep	13,377	8,622 51	13,469	8,630 37
Swine	6,860	5,244 51	7,889	5,701 43
Poultry	19,423	4,057 13	18,932	4,015 45
Dairy products	14,318	4,876 21	15,722	4,897 28
Grains and seeds	15,595	4,599 17	16,543	4,752 08
Roots and other hoed crops	31,982	5,327 31	30,750	5,223 62
Orchard and garden products	40,960	7,223 81	41,541	7,433 80
Implements and manufactures	6,065	2,525 44	6,406	2,703 01
Fine arts, ladies' work, etc	62,383	16,771 93	62,487	16,679 04
Totals	258,854	100,131 05	261,725	99,655 96

SOME DIFFICULTIES OF FAIR MANAGEMENT.

By James Mitchell, Goderich.

The difficulties of fair management, as they seem to me, are many. Some of them are inherent in the conditions or "ruts" into which we have fallen; they are inherent in the system of management of Fall Fairs. Some of them are the results of local conditions. I want only to speak of a few of them, such as may be discussed at a gathering like this. These are general difficulties which are experienced more or less all over the country.

The first thing I notice is lack of attendance and interest in the annual meeting of Agricultural Societies. Is not this the experience of a great many present? I have attended a good many meetings of the District Society in West Huron, and I have never seen anything like what I considered a proper meeting for the importance of the work we had in hand. We used to attribute this to the fact that a mutual fire insurance company near by had their meeting on the same day. But this year their meeting came a week later than our, but our attendance was no better. A society such as ours, with 150 exhibitors, should have more than twenty or twenty-five persons at its annual meeting. One result of this lack of interest is that we do not always select the best men for the positions. At this meeting reports are considered, officers elected, and arrangements made for changes in rules and regulations and in the prize list. There are always complaints from exhibitors, who desire certain changes in the prize list. One would think that they at any rate would take sufficient interest to appear at the annual meeting and urge their views. Although we have no lack of complaints, few of those who make them ever put in an appearance.

A large attendance would certainly result in a better set of officers than we sometimes get. Surely the interest of the members of an Agricultural Society should extend beyond seeing how many dollars they can pull out of the fall show. How are we to revive interest among our members and get a representative annual meeting that will produce the ideal state of affairs we are looking for?

The second difficulty to which I shall refer is the conflicting of dates. This I consider is the result of multiplicity of fairs. In West Huron we have six societies beside the District Society, and three shows held every year in the riding, besides the district show. In the South and East Ridings there are three more. We show to death in the county. As the Branch Societies meet one week earlier than the District Societies, they have first choice of dates, and there is almost every year a conflict of dates. Our West Huron Society has had more than once to select dates other than those considered best, simply to avoid interfering with the dates chosen by branch societies in the county. If there is any means of remedying this, I should like to hear of it.

Third: The professional exhibitor is another undesirable feature of the modern fall fair. Instances can be cited where these individuals combine to help each other, and "work" the fair to the detriment of the small exhibitor. There is no doubt that many who would otherwise enter a few articles in which they take a special interest are deterred from doing so because in almost every department there are two or three professionals who sweep the board with large displays not always their own. Take a list of prize-winners at two or three contiguous fairs, and you will find quite a number of names that appear at more than one of these. As has been frequently stated at these annual meetings, there are professionals who make a circuit of several counties and are regarded with distrust by

the small local exhibitors. If we would have more exhibitors, even small ones—if these professionals were regulated or curtailed in some way—would there not be more interest in our fairs?

Fourth: I should like to see this association—(I wish to impress this point)—revise and draw up a set of Rules and Regulations, a classified prize list, and a set of entry forms and financial books, which could be safely recommended to fair boards and officers everywhere as the best arranged, most complete and most practical methods. Many of the officers of these associations are willing to keep proper books if you will show them how. In support of this I may say that we have forms for the Treasurer's report from the department. Sometimes these are criticized; they are said not to be the best kind of form; but I think I am safe in saying that the Department is quite willing to improve them, if you will indicate where such improvement is necessary. In municipal bookkeeping we have a system recommended by the Government. Would not some such improvement in methods, prepared by our wisest and most experienced fair experts, in conjunction with the Department, be a help to fair managers, many of whom are yet running in the old ruts of twenty years ago? Owing to the present lack of methods, when information is wanted as to entries, prizes, etc., of two or three years ago, it cannot be had. After the auditors have done their work—and there is room for improvement in that respect—it is too often the case that the papers are all burned up, as it is said there is no use in keeping them. There is use in keeping them, and I should like to see some system introduced whereby they could be kept systematically.

Fifth: How to interest the general public in our fairs is another problem. I know that the question of special attractions has been threshed out by this association, but in mentioning this difficulty I mean interesting the public in a practical and educational way. I listened with much interest to what the Minister said on this subject, and I think he is right. I have in mind fairs that boast of their attendance as away up in the thousands, but whose prize list does not exceed in the aggregate $300 or $400. Even the most enthusiastic director of such a fair will hardly say that the people come to see the exhibits, for in most cases they are the same stereotyped, commonplace exhibits that have "graced" the tables and sheds for ten, fifteen or twenty years. The people may have a good time getting together once a year at these shows. That is not to be condemned; but is this result that the fall fair is intended to develop? There is no interest manifested in the exhibits. I am not condemning the people, but I want to see improved methods, by which we can keep their interest and instruct them in things that will be useful to them. Is this all that the science of agriculture, horticulture and kindred social and economic arts can show as the result of the development of two score or more years? I want to see competition worthy of the name; competition that is stimulating and educative. I want to see some means whereby people of town and country will be taught how to obtain the best results in this or that branch in which they are interested. Take the department pertaining to country life. Are the fall fairs doing what they might to foster pride and ambition—not for a fast horse—in the boys and young men of the farm? I do not think that the boys of the country are being impressed with the idea that their calling, besides being the oldest in the world, is the most honorable. Are the boys being kept on the farm as the result of our fall fairs? Too many of them are being shown the glamor and glitter and sham of town and city life, instead of being shown something they can learn and something in which they will take a personal interest. Do not allow them to get the idea that they want to leave the farm. You in the City of Toronto could

spare a good many of the farmers' boys you have here. They would be better back on the farm. I contend that the fall fairs can do a good deal to encourage the boys and make them feel proud of their calling; and that they should teach them how to farm, so that they may stay on the land and make a profit out of it.

I contend that our fairs, as has been stated by the Minister, should be made more educative. I have for several years urged these ideas on our Board of Directors. I want to see our fairs more practical than they are, and it is in that direction that this association can make itself useful and successful.

DISCUSSION.

Mr. Frank Metcalf, Blyth: I have been connected with fairs for a number of years, and have met with a good many difficulties in their management. I will confine myself to two or three of them. I quite agree with Mr. Mitchell that one of them is the small attendance at the annual meeting. If the members would attend this meeting, they would learn what the society had been doing during the year, and this would lead to discussion, which would be helpful to the management. In visiting different fairs, I have hardly found two Secretaries who keep their books alike. I think it is very desirable that some uniform system should be introduced. I see no reason why a simple set of books should not be devised, which would be within the comprehension of the ordinary man.

I think there is another side of the question of the professional exhibitor. The object of an exhibit is to bring before the people a model of excellence. We find the highest excellence is attained only by those who make a specialty of some particular department. When such men, who devote th ir whole attention to a special department, take in a circle of fairs and sweep everything before them, we call them "ringers," and many are deterred from exhibiting. But it should be remembered that if one man excels in a particular article, it shows that others can excel in it also, and if he earns a prize he is entitled to it. Unfortunately, I believe it is the case that sometimes professional exhibitors are not the most honest in their exhibits, but to rule out an article because the exhibitor did not actually raise it himself, would be pretty hard to do, even if it were just, although you might discover such was the case a month or two after. There is no doubt that a certain percentage of the prize money goes to men who do not honestly earn it, but how are we to overcome that? I think that if an example were made occasionally it would help to deter exhibitors from dishonest practices.

Hon. John Dryden: If a Superintendent were appointed, one of his first duties would be to prepare a proper set of books for the fairs. There is no doubt that something of the kind is needed. I hope this meeting will take action on the question of a Superintendent.

Mr. D. G. Hanmer: With reference to making our fairs more interesting, I think that the solution of the problem will be found in making them educational. They are not educational now. There is little satisfaction or instruction to be gained by standing outside a ring and seeing a first, second or third prize ticket put on an animal. You cannot tell without handling a beast just what its quality is. Short lectures should be delivered in the ring on the merits or otherwise of the animals. No one should be employed as a judge who cannot explain the points in an animal, as he finds them by handling, and give the public a statement of the reasons for the awards he makes.

As to the clashing of fair dates, to which Mr. Mitchell referred, this can easily be overcome by arranging them in a circuit.

I do not think that the success of our fairs depends entirely upon the judging, or special attractions, or any of the things that have been referred to. I think the financial management of many of our fairs is very bad. Many of our fairs are drawing money from the Government and paying upwards of a thousand dollars for amusements, and not paying their prize money. I know of one fair that spent between one and two thousand on amusements in 1900, and never paid a cent to the exhibitors, and yet drew $520 of Government money, and a similar sum in 1901. There should be a remedy for this sort of thing, and it can only be done by appointing a proper head.

W. Clark, Huntsville: I have been Secretary of our association since its inception. I receive a number of applications for special attractions every year, but always throw them into the fire. With reference to bookkeeping, I may say that I have given this matter special attention, and can go back to the very first and see what everyone took in prize money. There is not much trouble about the matter if separate books are kept, each for its own department.

Mr. George, North Bruce: It might be well to offer a prize of, say $50, for the best set of books for an Agricultural Society. In reference to the matter of amusements, I should like to say that the trouble does not rest with the farmers; it emanated from the Toronto Industrial Exhibition. (Hear, hear.) It is useless for the Government or anyone else to attempt to wipe it out in the Agricultural Societies until you wipe out the disgraceful state of affairs existing right here in the City of Toronto. In working out a reform of this kind you must strike right at the fountain head.

Mr. F. W. Hodson: How are you going to stop it in Toronto; they have no Government grant? No one has any control over them but the city itself.

Major John McGillivray: I am one of the directors of the Industrial Exhibition, but I am not sensitive on this question. Mr. Mitchell in his address said that the tendency of to-day was to migrate from the farm. He says that if we had more educational features at our fairs in place of special attractions we should attract our boys early in life to the profession of agriculture, which, I agree with him, is an admirable one to follow. I am one of seven farmer's sons myself. But I think we shall have to look beyond the country fair for the reasons that attract boys away from the farm. I think, for instance, that a little fault might be found in connection with school trustees. We have an admirable system of common school education—no better in the world—but I am sorry I cannot say as much for our High Schools. We have too many of them. This higher education is giving boys a notion that they should get educated for the office. I think if there were fewer High Schools, fewer of our boys would turn from the farm. I have a great admiration for the work Mr. Dryden is doing for the farming community, and I can fully endorse what he said as to combining the Farmers' Institutes and the Fair Boards.

I was very much impressed with what Mr. George said as to special attractions. Thirty years ago we had none of these things. They are a latter day development, and I regret that we have drifted away from the old-time attractions, where we had the crowds, but not the special attractions. The Industrial desires to secure the support of the township and county fairs. If the people of the country desire a different sort of exhibition to that now given, I believe that a resolution to that effect passed by this association would have great weight with our Board. We want to attract you from all parts of the Province to that exhibition. Im-

provement has already been made. Last year there was a marked improvement, many of the objectionable features being withdrawn. Some of the members of the Board would be glad if they were all withdrawn. We might memoralize the Exhibition authorities, and I am sure it would have great weight.

Hon. John Dryden: I am glad to hear your suggestion as to memoralizing the Board, and I think it might be a good thing to do. I think the example Toronto has set has worked harm among our local fairs, for the reason that they try to imitate when they are not in a position to do so.

Mr. A. Gifford, Meaford: I believe that the Institute and the Fall Fair should be worked in unison. The trouble with the Institute is that what is heard during the fall and winter months is very largely forgotten when the time comes to apply the information obtained. If we had the same kind of talks at our Fall Fairs as we have at our Institutes, with animals as object lessons, a lesson would be impressed which would not be forgotten. We had an illustration of this at our Fall Fair last year. Mr. McNeil of Walkerville gave us a practical illustration in packing apples. This man was surrounded all day by a crowd of people; they were all interested and anxious to see how the work should be done. There was no need of any special attraction while he was there. The result is that there will be more practical packing of apples by the interests who grow them, and if there is any money in the business the grower will get it.

I agree with Major McGillivray as to the influence the fair should exercise in keeping the boys on the farm. I see here a large number of young men. These are the men who make our exhibitions, if they will take hold of them. I think we should push the young men forward and get them to take an interest. Get them to exhibit stock of their own. I tell my boys that they may take anything they like on the farm, prepare it for exhibition, and any prize money they win will be their own. I encourage them to watch the professional exhibitors to see how they fit their animals, and then try to beat these people at their own game by turning out a superior product. Get the boys interested in that sort of work and you will put a powerful lever at work in keeping them on the land.

Richard Honey, Warkworth: Some of the speakers are rather inclined to throw cold water on the professional exhibitor. We should weigh the matter carefully before being too harsh on him. If a man can produce an extra good article in any one line, why should he not show it where he likes. The more territory it is shown over, the better educator it will be. I exhibit at a great many shows, and I want the privilege of showing where I please, provided I show my own animal and pay for it, and pay my membership fee.

Mr. F. W. Hodson: I think there is some misunderstanding as to what a professional exhibitor is. Men like Mr. Honey or Mr. McCrae, who breed and feed their own animals and make a good exhibit, are welcome to exhibit anywhere. But the fellow who has only two or three poor animals at home, and who buys them for exhibition purposes only, and who buys, borrows, begs or even steals other articles for the same purpose—that is the man we want to get rid of. The only way we can do it is to give the prize to the man who breeds the animal, especially in females. The buying of bulls might be permitted. He should not have to buy females all over the country or to beg or steal fruit, roots, etc. This is the man we want to get at. These men are plentiful. I know men who go through the country and make large exhibits, but if you go to their farm three months after you cannot find a pig or a sheep or a bull that you would take home to breed from.

Mr. J. I. Graham, Vandeleur: It is sometimes the case that the best fruit shown at a fair and grown in the district is stolen from the tables and shown at other fairs. In one case I know of marked fruit was stolen, and was afterwards found at another exhibition. We have had as many as four plates disappear, and have had them exhibited against us at other fairs.

H. E. Eyre, Leeds Co.: I think that Mr. Hodson is on the right track with regard to the professional exhibitor. I hope there will be a Fair Superintendent appointed and also a Superintendent of Institutes, and I do not care whether the same man acts in both capacities; but I think that the Fairs and Institutes should be kept separate, as they have no affinity for each other. I believe that the right way to disseminate information is through the Institutes. The excellence of the exhibit made at the fair is often the result of the information we have secured through the Institute. I hope the Superintendent will fix it so that it will be impossible to have a dishonest exhibitor.

Mr. G. C. Creelman: I was Chairman of a committee appointed last year to draft a set of rules and regulations, which would apply as nearly as possible to all fairs in the Province. We secured copies of the prize lists of all the fairs held in Ontario, and some from the large fairs held outside. We went over them carefully, and have prepared a set of regulations which will be submitted to-morrow to be criticized by you. Out of this material we hope to arrange a set that will be more or less uniform. Until the committee makes its report, I do not think we should go into the discussion of this subject. The Live Stock Associations of the Province are watching and the fruit men are watching the deliberations of this Board to such an extent that as soon as they found that a committee had been appointed for this purpose they immediately appointed committees to meet with our committee, so that the cattle men were properly represented on the prize list, and that the sheep, swine, horses and fruit were also well treated. We have the reports of all these committees on hand. It is a hopeful sign that these associations should take cognizance of the acts of this association.

Mr. W. B. Sanders, Stayner: The greatest nuisance we have to contend with is the professional exhibitor in dairy products and in ladies' work. These women pack a trunk full of work, or sometimes two or three. These they send to the fair Secretary, sometimes with the request that he have the articles displayed on the tables, and then repacked and forwarded to another fair. These exhibitors send fancy work all the way from Ottawa to Owen Sound.

It is the same with dairy goods. I have seen the same sample of butter exhibited at three different fairs. When I wanted to buy some of it the owner said she could not sell it, because she was exhibiting it at a series of fairs that would last over three weeks.

Wm. Walsh, Kincardine: Any woman who can keep prize-winning butter under such conditions for so long deserves a special prize.

THE TOWNSHIP FAIR.

By W. B. Sanders, Stayner.

In view of the sweeping changes recommended by the Dominion Live Stock Commissioner, so materially affecting the Township Fair, practically doing away with it, placing it in amalgamation with the Farmers' Institute, with the probability of having no fairs held within twenty-five or

thirty miles of each other, and acting on the principle that when you see a little fellow getting pounded, a true Briton will always step in and see fair play, I have felt constrained, on being asked to submit a paper on some subject, to offer a few remarks to you on the much-abused, and, in my opinion, oft-misrepresented Township Fair.

After an experience extending over twenty-eight years as either President or Secretary of such an institution, I can fairly say I can look back and point to much that has been accomplished in agricultural advancement in my section of the Province at least, and I would strongly suggest that before action is taken towards the abolition of the Agricultural and Arts Act, a reasonable consideration be given to the causes for the alleged impaired usefulness of the Township Fair.

I am quite aware that in entering a plea for the Township Fair it may not be a popular one, and I may be running up against the opinion of some who possibly have had the opportunity of informing themselves as to what the general practical results of all these Fairs actually have been, but, speaking for the Townships in Western Ontario, situated not too close to such large centres as Toronto (say outside of 70 or 80 miles), I am safe in saying the little Township Fair has not lost any of its educative features, but on the contrary, where it is far enough situated from the Exhibitions which have developed into circus performances, there is yet sufficient pride and interest taken in it to retain its distinctive features.

In expressing this opinion I am glad to note that of the ninety replies published in the last annual report of this association by Dominion Live Stock Commissioner Hodson, in answer to his circular letter on the condition of our District and Township Fairs, I am encouraged by the fact that no less than thirty-three of them endorse this view; and it is also worthy of note that since this Township Fair agitation has commenced our agricultural journals have contained from more than one correspondent an endorsation of my contention.

Unfortunately the Township Fair has suffered from various causes, and in my opinion those causes may properly be classified under the following headings, namely:

(a) The unfair apportionment of the annual Government grant.

(b) Want of interest taken by the farmers themselves in their Township Fair.

(c) The professional exhibitor.

(d) Allowing competition open to the world.

(e) The unsatisfactory system of judging.

Before dealing with these causes individually, let me just ask what are the distinctive features of a Township Fair? Undoubtedly they are to encourage, improve and develop agriculture in all its departments, horticulture, manufactures and the useful arts; admittedly more in the direction of holding competitive fairs for farm products than in encouraging the offering of prizes for essays on scientific agricultural questions, or the importation or procuring of new seeds, plants and animals, these two latter features, so far as I can learn, having proved exceptions. Just as certainly it was never anticipated that the mountebank, the fakir, nor the circus performer should have any place in it.

But whence came these innovations? In my humble judgment the Township Fair is in no sense responsible for them, and they can fairly be traced to the district and other exhibitions held in large centres, having the advantage of large populations from which to draw larger subscription lists, and further subsidized by an unfair proportion of the Government

grant, the quid pro quo to that subscribing public being an entertainment and not an agricultural show.

Has the Township Fair been fairly dealt with in the apportionment of that Government grant? Is it not quite possible that the failure of results has in a large measure been due not alone to the want of interest exhibited by the farmers, but to the manner in which the Fair has been handicapped in not receiving its fair proportion of this Government grant?

Let us look squarely into the matter and see to what extent it has suffered, and let me take the electoral division of West Simcoe, in which I live, as an instance.

This Electoral Division Society holds its annual Fair in the County Town in amalgamation with the Township of Vespra and the Barrie Horticultural Society. The Government grant is $800, of which the Electoral Division Society receives $380, the Barrie Horticultural Society $74, and the Vespra Society $53, making a total of $507 as a nest egg to open their operations with, and leaving $293 to be divided amongst the four remaining societies, or an average of about $74 each.

I am not overstating the fact when I say that as a purely educational Agricultural Fair the Township ones in this electoral division have until recently, by the introduction of special attractions in the County Show, been far in advance of it both in point of financial and agricultural success.

Taking this as a fair criterion, it will be seen that of the annual amount of $76,650 set apart by the Government for the encouragement of agriculture, no less than $48,000 of it is practically employed as premiums for the entertainment of the public by monkey-shines and mountebanks, under the name of an Agricultural Exhibition.

In deprecating so strongly the platform performances which form the special attractions for so many Exhibitions, I do not wish to be understood that what is known as "speeding in the ring" can in any way be classed with them, for I think no greater object lesson could be given the Canadian horse breeder than the fact that of the 446,088 horses purchased by the British Government for the South African war, 88,465 were purchased on this side of the water, and of which latter number only 11,364 were secured in our whole Dominion. I say by all means protect your little speeding ring, shut out the ringers, and encourage the class of horses that will enable us when called upon to supply more largely the market opened to us by Great Britain.

It is true that the greatest problem is to secure the co-operation and active interest of the farmers, who I fear too generally look upon the matter in the light of a speculation, in which they will invest a dollar only when they see a chance of drawing out five or ten. This, it seems to me, could be remedied by an energetic Board of Directors, who would hold meetings in the different school sections and place the advantages of supporting the Township Fair in an intelligent manner before the farmer.

The professional exhibitor is a hard one to reach, and is in evidence at every Fair. To such an alarming extent have his operations been carried, notably in dairy products, grain and ladies' work, that it is imperative steps be taken to shut out this evil, which has contributed largely to the want of success of the Township Fair. Last season I judged the same exhibits in dairy products at three different Fairs, and upon requesting the exhibitors to sell me a couple of them, was told: "Oh, I won't be done showing them for three weeks yet."

When hand-picked samples of grain are exhibited for two consecutive years, and take prizes all the way from Ottawa to Owen Sound, which I

have reason to believe is a fact, the time has arrived to weed out the professional exhibitor.

These evils I feel can be remedied by limiting the competition to the township itself, or, at most, to two adjoining townships, when the operations of the professional exhibitor can be controlled and better results would come from the Township Fair.

Heretofore the dissatisfaction occasioned by the awards of incompetent or partial judges has been largely responsible for past failures, and I am decidedly of opinion that a proper circuit of Fairs, attended by expert judges, provided by the Government, more especially in the horses and cattle classes, would meet this difficulty.

It is no wonder then that a re-organization of the Fair system has been suggested, for it is time for a change, but let the change be in the direction of a genuine Agricultural Fair and the building up and improving of the Township Fair, and there can be little doubt that the aims and purposes of that institution will be assured.

If this step is taken the educative features of the Fairs will reach the younger class—the class we want to reach—who are unable to attend the larger Fairs held at greater distances from the farm.

The present is an age of agricultural progress and advancement all along the line, the farmer steadily and surely taking his position second to no calling in the Province, one of the stepping stones to such position having been the Township Fair, and I trust it may yet be maintained.

DISCUSSION.

Mr. F. W. Hodson: Will you designate what is meant by speeding in the ring?

Mr. Sanders: It means horse racing. It is six of one and half a dozen of the other. Have your speeding, but do not have it in the form of racing. Have your competition for style and speed, not for speed alone.

Question: Do you have heats?

Mr. Sanders: In some classes that is the plan.

Mr. Hodson: What sort of horses usually take the prizes for speeding in the ring?

Mr. Sanders: Usually old ringers.

Mr. Hodson: How many points do you give for style in the competition?

Mr. Sanders: We give a good many.

Mr. Hodson: Do you when these ringers win?

Mr. Sanders: No; as a matter of fact, if a ringer wins in a race, we cannot shut them out of the money.

Mr. Creelman: In fact, it is all speed and no style.

Mr. Hodson: If you had boys of your own, would you be willing to train them for speeding in the ring?

Mr. Sanders: Certainly not.

Mr. Hodson: Then, would you ask another man to allow his boys to do it?

Mr. Sanders: No, I would not. We have the greatest contests between entire horses; that is where I want to see the speeding, so that they can show their action. I think there is a business side to the question. During the present war Great Britain bought 446,000 horses for service in South Africa. Of that number, 88,000 came from this continent, but only 11,000 from Canada. We must impress upon our people the necessity for breeding the class of horses for which there is a demand.

Mr. Hodson: But are the horses that win in your ring the horses Col.

Dent wants for the British army? No; they are the ringers and the kind we want to shut out. I have worked at this thing for a number of years. I tried my best when in Kentucky to bring good out of evil in this matter; but I did not succeed, and I do not believe anybody else will succeed. So long as you give prizes for speeding in the ring and have a horse race pure and simple, you will never have pure and elevating County and Township Fairs. In the old country all horses of that sort are shown in the saddle. They exhibit their gait, jump them over hurdles, etc., to show whether they are suitable for army purposes. This is just as attractive to the people. It is exceedingly attractive to the English people, and is a great benefit to them; it teaches them how to produce the kind of a horse they want. As soon as you introduce speeding, you bring into this country the Kentucky trotting horse, which is not the kind of horse the army wants, nor the kind that we want.

Mr. McKenzie, Lucknow: I have been President of our Agricultural Society for seventeen years. We have increased the popularity of our show by eliminating the obectionable features. We retain speeding in the ring, however. I agree with what Mr. Sanders has said in his paper on township shows. If you do away with speeding in the ring, the result would be to kill the Township Fair.

Mr. Kydd, Simcoe: If you are going to show fine horses you must be allowed to show their form in the ring, and add style, value and speed in the prize list. The word "value" will allow the judges to award the prize to the horse that does not come first on the track. In that case, style and value would be the governing feature in awarding prizes. If this system is honestly carried out, you will see the ringer banished from the shows.

Wm. Laidlaw, Guelph: I am a little tired of this discussion. We talk on this subject year after year, but go home and do the same thing. I like to see good speeding in the ring. I do not see that it would be possible to base the awards on style and value alone.

Mr. Creelman: In reference to this subect, I should like to say that the best Agricultural Fairs now held in the Province of Ontario have no speeding in the ring, and they make a decided success of their exhibitions. The Simcoe Fair had nearly 400 horses on exhibition last year. Here is an example to which you can point to prove that it is not necessary to have speeding in the ring in order to encourage the breeding of good horses. They have definitely settled that question. Every Fair would be benefited if it would send one or two of its directors to visit the Simcoe Exhibition. I would recommend you to go there next year, instead of to the Toronto Industrial. The sooner you drop speeding in the ring and get down to a genuine horse show, the better it will be for your societies.

Mr. F. W. Hodson: In reference to the remark of Mr. Sanders, who spoke of the Dominion Live Stock Commissioner making sweeping recommendations, one of them being to do away with Township Fairs, I should like to say that nothing was further from my mind. I believe that possibly some of our exhibitions ought to be done away with. Some persons, I know, think that they should not be held nearer than thirty or forty miles apart; but I said this was a question for the people to decide. I said in Guelph that I was not one of those who believe in doing away with Township Shows. This should only be done where they are not doing good work and cannot be made to do good work. My position is to strengthen our Exhibitions and not to do away with any that are doing good work and are well situated.

Mr. Gifford: I am glad to hear Mr. Hodson's explanation because there

was an impression abroad that one of the objects of this meeting was to do away with Township Fairs.

It was moved by Mr. Mitchell, seconded by Mr. Metcalf, that a committee be appointed to take into consideration any questions submitted by members, and to publish answer to same in the agricultural papers. Carried.

THE VALUE OF SEED FAIRS.

By C. A. Zavitz, Experimentalist, Agricultural College, Guelph.

If it is true that agriculture forms the basis and life of our country's wealth and prosperity, it is equally true that crop production stands in a somewhat similar relation to the various branches of agriculture. From the reports of the Bureau of Industries, we find that for the year 1900 the market value of fourteen of our principal field crops amounted to $114,758,761, and that the aggregate value of all kinds of live stock sold or slaughtered in the same year amounted to $41,642,617. It will, therefore, be seen that the value of the farm crops grown in Ontario each year is very great. An increase of 1 per cent. in the value of farm crops in Ontario would mean an increase in the value of the crop production of over $1,000,000 annually. These figures give us some idea of the careful study which we should give to this all-important subject, which stands at the very foundation of Ontario's prosperity.

It seems to me that a great responsibility rests upon all of us who have means placed at our disposal, with the object of assisting in the improvement of the farm crops of Ontario. The principal sources through which our farmers can look for information which will assist them in their farming operations are, the Agricultural College, the Experimental Union, the Farmers' Institutes, the public press, and the agricultural exhibitions. We learn that originally some of the chief objects of the agricultural societies were to encourage improvement in agriculture; by, first, importing and otherwise procuring seeds and plants of new and valuable kinds; second, carrying on experiments in the growing of crops; third, awarding premiums for excellence in the production of grain and seeds; and, fourth, offering prizes for essays on scientific enquiry relating to agriculture. But few, if any, of the agricultural societies carry on work along any of these lines, except by awarding premiums for excellence in the production of grain and seeds. Some of the agricultural societies have dropped even this one feature from their annual exhibitions. The agricultural societies of North Perth and of South Perth, for instance, have offered no prizes for grains and seeds for several years past. While it is true that the agricultural societies have neglected nearly all of these important lines of work, they have nearly all been taken up through other channels. The agricultural college has established an extensive system of experiments in field agriculture. The Experimental Union has established co-operative work on various farms in nearly every neighborhood throughout the Province, and a few of the Farmers' Institutes have established seed fairs in connection with their Institute work.

One of the oldest, or perhaps the oldest, of the seed fairs is the one which was established at Guelph many years ago by the Puslinch Farmers' Club. Of recent years, however, this fair has been under the management of the South Wellington Farmers' Institute. Two exhibitions are held annually, one with spring crops in the month of March, and the other with winter crops in the month of August. At this fair prizes are offered for new

varieties of grain, as well as for the old standard kinds. All grains shown for competition must be grown by the exhibitors, and all exhibits must be correctly named. The entry fee for the members of the Farmers' Institute is 25 cents, and the fee for non-members is 50 cents. In connection with these fairs, a large amount of grain is bought, sold or exchanged by the farmers themselves.

About five years ago I saw an opportunity for making this fair more educational in its character, and I offered to speak to the people on the different varieties of grain. This offer was accepted, and a talk was given upon the relative characteristics of certain varieties of grain and their adaptability to certain soils. This information seemed to be appreciated, and from that time to the present a talk has generally been given at each fair upon some subject of special interest to those present. Some of the subjects which have been taken up have been as follows: Varieties of farm crops, the importance of sowing good seed, the best methods for killing smut in grain, the value of sprouted wheat for seed purposes, the advisability of sowing weevil-proof peas, etc. The discussions after these talks have been excellent. These gatherings have been counted and reported by the Secretary as meetings of the Farmers' Institute of South Wellington, and I doubt if there are any meetings held in which there is a keener interest taken than in these gatherings in connection with the seed fair.

Seed fairs are now in operation in connection with at least four other Farmers' Institutes in Ontario, i.e., West Wellington, East York, South Grey, Centre Grey, and West Victoria. Some of these seed fairs, such as the one held in East York, have been organized for a good many years, while others have been started quite recently.

The exhibits of grain and seeds at the seed fairs and at the agricultural exhibitions should be made as instructive as possible. The thinking farmers of Ontario are anxious to secure information along those lines which will assist them in obtaining larger crops of better quality. This point was brought out this winter when it was announced that there would be a short course given in judging stock and grain at the Agricultural College. The applications received were far beyond our expectations. The two hundred and twenty students who took the short course in grain judging showed the keenest interest throughout. The following quotations are taken from letters received from some of the students, after they had completed the short course and had returned to their homes:

"The short course in grain judging not only increases one's knowledge of the grain, but it awakens a desire to learn more."—Howard Bartlett, Smithville, Ont.

"I consider the short course in grain judging to be of great value to me, and from the sentiments I heard expressed, I am positive the other members of the class considered it of equal value to them."—A. Dudley Alton, Appleby, Ont.

"The short course which we have just completed has aroused interest in seed grain not thought of before by many."—Wm. Hudd, Horning's Mills, Ont.

"I had to hire an extra man to keep the work going while I went to Guelph to take the course in judging, yet I consider the time and money well spent. I shall hereafter endeavor to profit by the information obtained during the course."—G. R. Race, Pt. Hope, Ont.

"In my opinion, the grain judging was the most important part of the two weeks' course, as we can put it into practice afterwards to such good advantage."—D. N. McGregor, Laurier, Ont.

We see from these quotations that it is possible to create a keen in-

terest in the study of our agricultural seeds. Why not, therefore, make our seed exhibits more attractive, more practical, and more instructive for the farming population of our Province? I believe there are many ways in which this could be accomplished. Permit me to draw your attention to a few of them:

(1) To have every grain exhibit accompanied with a collection of about 25 average plants, neatly tied into a sheaf.

(2) To have a card attached to each exhibit, giving the correct name of the variety, the number of acres grown, the kind of soil used, and the average number of bushels per acre obtained.

(3) To have the judging done by experts who would judge the exhibits upon their merits and give reasons for their decisions.

(4) To have special exhibits of deep interest to the farmers in the locality in which the exhibition is held, such, for instance, as the following:

(a) The best collection of weevil-proof peas;

(b) The best samples of alfalfa hay, with concise statements as to methods used in curing;

(c) The best collection of leguminous plants for fodder purposes;

(d) The best collections of grasses, with a concise description of each;

(e) The best collection of varieties of clovers, showing the root development of each variety;

(f) The best methods of illustrating the comparative values of different varieties of grain for the locality;

(g) The best methods of illustrating results obtained from sowing seeds of different selections;

(h) The most carefully conducted experiments conducted in connection with the Ontario Agricultural and Experimental Union.

(5) To have the person who did the judging, or some other competent person, to give talks upon the characteristics of different varieties of farm crops, best methods to kill smut in grain, etc., at such time when the greatest number of people will be visiting the exhibition and examining the various exhibits.

There are many other features which might be introduced, all of which would assist in making the exhibitions exert a great influence for good. Would it not be wise, therefore, to get out of the beaten track, and introduce in our agricultural exhibitions some additional features which will have a greater tendency towards the advancement of Ontario's agriculture, and especially in the line of crop production?

DISCUSSION.

Major Hood, Guelph: A seed fair is held in connection with the South Wellington Farmers' Institute. It was organized thirty years ago, before the days of the Institute, and has been held every spring and fall ever since. It is looked upon as of great practical value in that section.

In regard to judges, we find that millers and grain-dealers are not the best judges. For instance in judging wheat, a miller is likely to give the prize to the best milling variety. We insist on having men who are thoroughly competent and acquainted with the foul seeds too often found in grain. At our spring fair we offer $40 in prizes, and a little more in the fall.

We insist that the exhibitor must grow the grain, and grow it in the year it is shown. Also that ten bushels of old varieties and two bushels of new varieties be shown. If there is a suspicion that the seed is not the same all the way through, we just tumble it out on the floor and soon find out. The entry fee to members is 25 cents, for which he can enter as many

varieties as he likes; to non-members it is 50c. We insist on all varieties being correctly named, otherwise they are thrown out.

Many exhibitors sell seed grain through the fair. Many prefer to buy it there, even at a slight advance in price, because they get clean seed. It is a great convenience also for the reason that in our district many of the farmers feed all the grain they grow, and for that purpose mix their seed in the sowing, so that they cannot produce their own seed; but by means of this fair we are able to obtain good seed at a reasonable price. We have an attendance of from four to six hundred people, many of whom drive fifteen or sixteen miles to attend.

Some might think that the fair would meet with the opposition of the seedsmen. On the contrary, our local seedsmen are among the directors and give prizes to encourage the fair. They also buy seed there to sell to people in other localities.

Question: Is not ten bushels too large an amount?

Major Hood: No; we want to encourage them to have the seed there for sale and exchange. We do not want a man to come there with a bag full of hand-picked wheat.

Question: Do you make sales at the time of the show?

Answer: Yes, that is one of the objects. As a general thing farmers get from five to ten cents per bushel in advance of the market price. Transactions are not limited to the sale of that shown, but sometimes extend to 200 bushels.

Mr. A. J. Reynolds: I am Secretary of the East York Farmers' Institute. We have held a seed fair every spring and fall for a number of years past, but it is conducted on somewhat different lines to the one in Guelph. We offer no prizes, the object not being so much a competition in the quality of the grain as to bring buyer and seller together. Every farmer having seed grain may bring a sample, which must be clean. He states the quantity he has for sale and the price he will take. In the afternoons we have general discussions as to the best varieties of grain to sow, the best methods of cultivation, and the best time for sowing. We have had this fair for ten or eleven years. Last year we had the best meeting of the whole series. Farmers make it a sort of annual gathering, and come from all over East York to buy and sell and hear the discussions. It is coming to this: there are so many farms that cannot furnish clean seed that farmers who can are entitled to a fair remuneration for it. At the fair last fall, fully 6,000 bushels of grain were sold as the result of the exhibit made.

There is a growing feeling that we must make our fairs more educational—that we must get back towards the lines from which we have departed somewhat. A few years ago we gave prizes for roots as they actually appeared in the field where they were grown. Why could not the same idea be carried out in connection with our seed fairs? Why should we not first judge the grain as it is growing in the field, and afterwards judge samples from the field? There is too much of the hand-picked sample business in connection with our general seed exhibitions. Would it not be desirable at the time of the Toronto Industrial to have two or three good addresses on the relative values of fall wheat? It would come at a time of the year when we could make good use of the information. The report of the Experimental Union does not come out at the right time for us to avail ourselves of the information it contains in this respect.

Question: Is your fair held near the city?

Mr. Reynolds: Usually within fourteen miles. This year I am going to advocate holding it in two or three localities in East York.

Question: Does a man who is not a member of the Institute have the same advantages as a member?

Mr. Reynolds: Every farmer is eligible to bring a sample there on payment of 25 cents, which also constitutes him an Institute member, if he is not one previously.

SEED EXHIBITS.

By G. H. Clark, Dominion Department of Agriculture, Ottawa.

I shall speak in reference to seed exhibits rather than seed fairs. These should be made as educational as possible. Since I have been with Professor Robertson I have had control of the Macdonald Seed Grain Competition. We have 800 boys and a few girls, all very much interested in taken up on the farm—growing seed grain on specially-prepared land, and the growing of stock seed for use on the rest of the farm. We should try to get our boys and girls interested in agricultural work, and this is one of the means by which it can be accomplished. It might be a good plan to have classes in grain open to farmers' sons and daughters under eighteen. We might also have a class for the best display by rural schools of injurious insects, as well as prizes for the best kept lawns, flower beds, etc., in connection with the rural school. This would be specially interesting to the pupils in the study of botany.

I do not think it is advisable in the larger fairs to give prizes for individual varieties. All varieties of wheat, oats or peas are grown for a certain purpose, and it might be better to divide them into classes according to the purpose for which they are intended. Wheat, for instance, might be divided into "soft," "medium" and "hard." It should be provided that the wheat shown shall have been grown by the exhibitor within a year of the exhibition at which it is shown. This would shut out the professional exhibitor, who buys grain and sends it on a circuit of fairs. The exhibitor should show not only the threshed grain, but specimens in the sheaf. If I were a judge I would give more attention to grain in the sheaf than I would to the cleaned sample.

Seed sowing for root crops should be fostered. Few people grow their own root seed in this country, because the cheap labor in Europe has rendered the business unprofitable. Dr. Wylie in his address at the Winter Fair at Guelph showed how important it is, if we are to go into sugar-beet growing, to raise our own seed on this continent. I believe the same thing applies to other roots.

In many countries in Europe seed is sold in sealed and certified packages. It might be well to adopt that system in this country. Weed seeds are often introduced among clovers and grasses, and there is much carelessness in handling seed in country stores where it is kept in bulk. The same scoop is often used for all varieties, and more or less mixing is the result. Rape and turnip and other similar seeds are very often mixed. It might add a dollar per acre to the cost of seeding to carry out a policy of this kind, but that would be a small matter compared with adding five tons per acre to the yield, and being sure that no foul weeds were present in the seed sown.

About a year ago applications were made from different sections for suitable rules for seed exhibits. To meet this demand I prepared the following:

RULES GOVERNING SEED DEPARTMENT.

(1) All seed shown must be grown and matured by the exhibitor within one year previous to the date on which the exhibition is opened, and must be correctly labelled with the name of the variety to which it belongs. An affidavit certifying that this rule has been compliel with may be required from each exhibitor in the Seed Department.

(2) The following entrance fees will be charged and must accompany each application for entry: For each entry, 50 cents. An entry fee will be charged for each special.

(3) All exhibits must be received not later than .....

(4) No exhibit shall be removed until the close of the exhibition.

(5) The Seed Committee reserve the right to reject any entry.

(6) Exhibits must be sent to the show room, addressed to Superintendent of show, in whose care they will remain during the exhibition. The arranging of the exhibits will be under the direction of the Board.

(7) Each exhibit of wheat, oats, barley and rye shall consist of one bushel of seed, together with a neatly-bound sheaf of grain of the same variety and strain of seed, which shall consist of 500 stalks, showing the full length of straw and heads of grain.

Each exhibit of peas shall consist of one bushel of seed, together with 50 plants of the same variety and strain of seed, showing the full length of straw and pods.

Each exhibit of corn shall consist of 30 lbs. of matured ears, together with 12 matured stalks of the same variety and strain of seed, showing the full length of stalk, with ears attached.

Each exhibit of flax, vetches, common red clover, mammoth red clover, alfalfa, and alsike shall consist of one-half bushel of seed, together with 50 plants of the same variety.

Each exhibit of timothy, orchard grass and brome grass shall consist of one-half bushel of seed, together with 100 plants of the same variety.

Each collection of Canadian-grown seed of mangels, beets, swedes, turnips, carrots or rape shall consist of 5 lbs. of seed of each variety, together with 6 roots or plants of the same variety and from the same strain of seed.

(8) Though not compulsory, the Board recommends that to each exhibit of clover, alfalfa, alsike and grass seeds a certificate of analysis from some recognized botanist be attached; said analysis to indicate the percentage of pure and vital seed. (Analysis of all kinds of seeds will be made and a certificate of analysis will be rendered, free of charge, to any person forwarding samples either to the Botanist, Central Experimental Farm, Ottawa, or to the Botanist, Ontario Agricultural College, Guelph. Samples should be forwarded for analysis thirty days before the result therefrom are required.)

(9) After the prizes have been awarded, any exhibitor may place a placard on the seed exhibited, giving his name, address, the pedigree of the seed, the amount of seed for sale and the price per bushel.

PRIZE LIST.

Fall wheat, white or red, soft	$5	$3	$2
Fall wheat, white or red, medium	5	3	2
Fall wheat, white or red, hard	5	3	2
Spring wheat, white or red, soft	5	3	2
Spring wheat, white or red, hard	5	3	2
Oats, long, white	5	3	2
Oats, short, white	5	3	2
Barley, six rowed	5	3	2
Barley, two rowed	5	3	2
Barley, hulless	5	3	2
Rye, winter or spring	5	3	2
Pease, small white field	5	3	2
Pease, large white field	5	3	2
Pease, colored, any variety	$5	$3	$2
Corn, early varieties	5	3	2
Corn, medium varieties	5	3	2
Corn, late varieties	5	3	2
Flax	5	3	2
Vetches	5	3	2
Common red clover	5	3	2
Mammoth red clover	5	3	2
Alfalfa	5	3	2
Alsike	5	3	2
Timothy	5	3	2
Orchard grass	5	3	2
Brome grass	5	3	2
Best collection Canadian-grown root crop seeds	5	3	2
Specials.—			

(a) To the rural schools exhibiting the best collection of weeds, pressed and mounted, and weed seeds in ounce bottles, each specimen and bottle to be properly labelled ..... $50, $30, $20, $10.

(b) For the best collection of grain and forage crop plants, showing stoolons, branches and part of root, consisting of 5 complete plants of each variety, with not more than 3 varieties of wheat, oats, barley, corn, peas, vetches, clovers, etc. Each plant to be separately tied and labelled to permit of individual examination. The competition for this prize will be open to farmers' sons or daughters under eighteen years of age..... $25, $15, $10, $5.

(c) To the rural school exhibiting the best collection of beneficial and injurious insects, mounted, properly named and arranged in groups according to the fruits, grains, etc., which they attack..... .... $50, $30, $20, $10.

(d) To the rural school having the best kept lawn, with the most artistically arranged flower-beds, said flower beds to contain such varieties of plants as may be most helpful in the study of botany. Competitors for this prize must make application for entry before the 15th of May each year. (The judges in this competition will be, the Public School Inspector, together with any other person or persons who the association may see fit to appoint for the purpose of visiting the competing schools during the month of September.)

Note.—In all competitions among rural schools the work must be done or the collections made by the pupils themselves, under the direction of their teacher.

THE FALL FAIR AS A HORTICULTURAL EDUCATOR.

By Professor H. L. Hutt, Horticulturist, Agricultural College, Guelph.

The fall fair has not, as a rule, been looked upon as one of the branches of our educational system; but it is nevertheless one of the farmers' schools where valuable information may be imparted, and lessons of the most practical kind may be learned by means of object lessons.

There has been much discussion of late about increasing the educational value of these fairs by the employment of expert judges, men who could not only award the prizes properly, but could, for the benefit of those present, give good reasons for their decisions. This would certainly be a move in the right direction, but before any material improvement in this way can be made along the line of horticultural education, we believe it will be necessary to begin further back, and revise or remodel the majority of the prize lists, for unless the prize list is arranged to bring out a good display of fruits of the right kinds, the expert judge, no matter how expert he may be, will be seriously handicapped in his efforts to impart information.

My attention was first called to the great necessity for improvement along this line last summer, when I was asked to revise the horticultural section of the prize list of one of our leading county exhibitions, and it struck me very forcibly that if so much revision was necessary in the case of one of the leading exhibitions, what must it be with many of the smaller fairs, where less attention is given to the prize list?

Since then I have taken the trouble to examine carefully a large number of the lists from all parts of the country, and I can assure you the greater number of our fall fairs are coming far short of providing the education they might from a horticultural standpoint.

I would like, therefore, to offer a few suggestions as to how these fairs might be made of much greater value to the people of all parts of the Province, by spreading reliable information relative to fruit-growing:

(1) Every prize list should be made to encourage the production and exhibition of every kind of fruit which may be successfully grown and shown in the section. In the most favorable fruit sections many of the lists are made to include most of the fruits grown there, and which are in season at the time of the fair, such as apples, pears, grapes, plums, peaches, quinces, etc., but the greater number of them stop short at apples, pears and grapes, and make no mention of any other kinds of fruit whatever. Now this is not because other kinds of fruit cannot be grown, for even in the least favorable sections of the Province plums of the American type are quite hardy and can be grown to perfection. In some cases, where the fairs are held late in the season, it may, of course, be difficult to keep such fruit in condition till fair time, but in a good cool cellar many of the latter kinds might easily be kept for some time. I am inclined to believe it would

be a wise plan to place on the lists even the earlier or more perishable fruits, such as strawberries, raspberries, gooseberries, currants, and allow these to be shown in preservative fluids, in ordinary gem jars, so as to show the fruits as nearly as possible in the natural condition. Mr. G. C. Caston made an exhibit of this kind at the Barrie Fair a year ago, which attracted great attention, and was instrumental in introducing improved varieties into more than one farm garden.

(2) In each class of fruit a few of the leading varieties best adapted to the section should be named on the list. In fact, these lists should be so carefully prepared that they might be taken as a reliable guide by intending planters. If confidence were established in the reliability of these lists, no better means of education along these lines could be given than the annual display of varieties brought out at the fall fair. The list of varieties for which prizes should be offered would naturally vary with the different sections of the country, as a variety that would be excellent for one section might be entirely unsuitable for another. The reports of our Fruit Experiment Stations should be a guide in preparing such lists. In the majority of cases the lists at present are either false guides, or no guide at all. In one list only three kinds of fruit are called for, and these are in collections of apples, pears and grapes, not a single variety being mentioned. On this same list 34 breeds of chickens are named, there being 83 sections for the entry of poultry. This list is a credit to the enterprise of the poultry fanciers of that section; but if so many classes and entries are necessary for poultry, of which not one farmer in twenty has a pure-bred flock, and those who have keep, as a rule, but one breed, how much more necessary that more encouragement should be given to the exhibition of fruits, of which most farmers have not only several kinds, but a number of varieties of each kind? On other lists where varieties are mentioned lots of old, worthless kinds, which should have been discarded years ago, are still being encouraged by prizes offered year after year, while lots of valuable varieties of more recent introduction are never mentioned. In such cases the lists are false guides and are doing positive harm.

(3) Offering prizes for largest collection of varieties should be discontinued. The aim should be to encourage the planting of fewer varieties, and not large collections of varieties, many of which are worthless. It is freely admitted by those in the export apple trade that the mixed shipments of many varieties in small lots are injuring our reputation in the British markets. What that market wants is a few of our best varieties, in larger quantities. The fall fair exhibit of varieties, as brought out by a good prize list, should be an education as to the requirements of the local and foreign markets. The Goderich prize list is excellent in this particular. In apples it calls for three small collections, viz., "6 best dessert varieties; 6 best cooking varieties; and 6 best export varieties."

(4) Little or nothing is gained and much dissatisfaction and hard feeling is often engendered by trying to class varieties as either autumn or winter. Nearly every fall disputes are referred to us to settle whether the Ribston, or Wealthy, or some other variety should be classed as fall or winter, whereas the classing of it as either one or the other will not in the least alter its season of maturing. In southern sections it will mature as usual, in the fall, while in northern sections it may keep most of the winter; and as to just where the dividing line would be in each case would be difficult to determine, and when determined would make very little, if any, difference. In preparing a list of varieties they should, of course, be selected so as to cover the season of maturing from early to late, in which case

there would naturally be most of the long-keeping sorts; and in judging collections the seasons covered by the varieties shown should be taken into account by the judges.

(5) At the end of each list of varieties of each class of fruit there should be one entry for "any other named variety." This permits the exhibition of good varieties which may not be mentioned on the list. Following this should also be another entry for the "best seedling variety." This would encourage the bringing out of local seedlings, which often proves more valuable for a particular locality than some of the older named sorts. The prize in this case should not be awarded, however, unless the seedling is deemed worthy of propagation.

(6) In the naming of varieties on the prize list, the rule of shortening and simplifying names as adopted by the American Pomological Society, should be adopted. This would not only greatly simplify the lists, but would be a very desirable education in the proper naming of varieties. For example, we would then have:

Blenheim, not Blenheim Orange, or Blenheim Pippin.
Colvert, not Culvert, or Culbert.
Fameuse, not Snow.
Grimes, not Grime's Golden.
Hubbardston, not Hubbardston's Nonsuch.
King, not King of Tomkin's County.
Ribston, not Ribstone Pippin, or Ribstown Pippin.
Anjou, not Beurre d'Anjou.
Duchess, not Duchess d'Angouleme, etc.

(7) In every prize list the classes and names of varieties should be arranged alphabetically. This is in itself a small matter, but it has been almost entirely overlooked in the majority of the lists. With but one or two exceptions, nearly all of the lists examined have made no attempt at alphabetical arrangement. This would take but little extra time when preparing the lists for the printer, and would aggregate an immense saving of time and annoyance and mistakes on the part of the exhibitors and judges who use the lists. One should be able to see at a glance at any list whether any particular variety is on it or not.

These, then, are a few of the improvements I would suggest, which would help to make our fall fairs of more practical value to those interested in fruit-growing, and much of what has been said relative to fruit-growing might be applied equally well to the other branches of horticulture, viz., vegetable gardening and floriculture; but we shall say nothing more about these at present.

I conclusion I may say that I shall be pleased at any time to assist those who have the matter in hand in preparing suitable lists and making the improvements suggested.

HOW THE DIFFERENT AGRICULTURAL AND HORTICULTURAL ORGANIZATIONS MAY ASSIST FALL FAIRS.

By G. C. Creelman, Superintendent of Farmers' Institutes.

I feel that the subject set opposite my name on the programme is a very important one. I believe that we have in the Province to-day enough Agricultural and Horticultural Societies to conduct the work of farmers' organizations. I do not feel, however, that they are working enough in unison. It would be presumptuous on my part to come before this meeting of Agri-

cultural Societies and say that "our 'doxy is orthdoxy and your 'doxy is heterodoxy." What I will say is that I do not think that the Farmers' Institutes are doing as much as they might to help the Fall Fairs. I will outline one or two ways in which the Institutes might assist the fairs, and to these I propose as Superintendent of Institutes to give my influence.

The first is that the Institute should aid the social side of the fair. We hear a great deal about "special attractions." I think many things might be instanced that would attract and at the same time have a beneficial influence. I believe that the Fall Fair has degenerated in this respect, and that the farmers and their wives, daughters and sons do not get together enough for social intercourse on the fair grounds, because there are so many "attractions," if you will allow the expression. I believe that if the Farmers' Institute organization were to have a tent on the fair grounds, where the members and their friends could meet together—where the President and Secretary of the Institute, and the President and Secretary of the Agricultural Society could meet and talk with the farmers attending the fair—a good deal would be done in this direction. I think that still more could be done through the instrumentality of the Women's Institutes, which are now becoming popular throughout the country. If, under its auspices, a lunch was served in this tent, it would greatly help the social side of the Fall Fair.

Second: I believe that the Farmers' Institute can assist the Agricultural Societies financially. I would recommend to the Farmers' Institutes that they should appropriate certain funds from their treasury for engaging lecturers for the fall fairs, who would give demonstrations in apple-packing, chicken-plucking, or anything of an educational nature, which would follow up the work of the judges and give the people information.

I believe the day is coming when all our agricultural organizations will be working together for the good of the community at large. There is no sense in the Institute trying to do one class of work and the Fairs Association another, when they are working towards the same end. I do not like to hear the complaint that the Agricultural Society is no good, and is not doing what it ought to do. When I get complaints of that kind I tell those making them not to write to me, but to join the Agricultural Society, send them the best exhibit they can make, and help them in every way possible.

Third: I believe that the Fruit Growers' Association can materially assist the fairs. We are now making arrangements whereby there will be an active local Fruit Growers' Association in every part of the Province. The Ontario Fruit Growers' Association has done splendid work up to this time, but now the time has arrived when they must extend their yearly meeting into a series of meetings, in which the individual farmers may take part. The local Fruit Growers Association should be asked to consult with the Fair Board, and to revise the prize list so far as fruit is concerned.

Fourth: Then we can go a step further and secure the co-operation of the Fruit Experiment Stations. If these stations are any good at all, they must have demonstrated to a large extent at least what is best in the way of fruit for the localities in which they are located. These stations are receiving Government money, and their object is to assist those interested in horticultural matters. Are you making enough use of them? Are you asking the Superintendent of the station to co-operate with your Board? Take the information he has to give and make use of it. If he will not give it, I as Secretary of the Fruit Growers' Association will undertake to see that he does give it. But I have no hesitation in saying that these men are anxious to help the farmers in their vicinity. Each Secretary should write

to the Director of the Fruit Experiment Station for his district and ask him what varieties he would recommend for the prize list, or what varieties should be cut out.

Fifth: The local Horticultural Societies ought also to assist materially. Give them a place in your main building for the exhibition of hardy varieties of plants, shrubs and flowers. They ought to be asked to have their officers there at certain hours during the fair, to explain how these plants and flowers have been produced, the mode of growing them, etc. An opportunity should be given to ask how to grow this or that. To-day people are discouraged by seeing exhibits so far superior to their own plants and flowers, because they do not know how to produce them. Let us take the other associations into our confidence; they are only waiting to be asked.

Sixth: What have you done about poultry? Most of you have a poultry class in connection with the exhibition. Prizes are given for the leading varieties, and it is all right so far as it goes; but it does not go far enough. What does the average farmer get by way of information, or as to why any particular bird got first prize? Why not, in addition to the live poultry exhibit, have some dressed poultry judged, and have an exhibit of eggs, and a demonstration as to the best way of plucking chickens? In this connection cards might be put up showing how the chickens were fed, so as to give information that will attract the boys and girls who are making this a sort of by-product on the farm.

Seventh: In this connection another suggestion is that a winter show should be held each year for poultry, bacon, etc. At a number of places last year they held a winter show. It would be easy for the Institutes to supply men to talk on the bacon and poultry carcasses. Do not make it too prosaic, but have general informal talks as to how the animals were fed and bred. If you will do this, you will start an educational campaign which will be of great value to the country.

But in conclusion, let me ask, are you as officers and directors of the fair boards doing your whole duty? How many directors are there here who go to the annual meeting with a written list of suggestions for the good of the show? I feel sure there are not many. Six gentlemen hold up their hands. Well, we are thankful for the six; but it should be six hundred. How many gentlemen here to-day are taking notes of things to bring before their boards later on? Nearly all. Well, that is hopeful, and a sign that we are improving.

FAIRS AND THEIR RELATION TO EDUCATION.

By Dr. James Mills, President Ontario Agricultural College.

I am put down to speak to you on Fairs in their relation to education, or how Fairs might be made of greater educational value. We are all in search of happiness in one form or another. We are apparently happy on different lines, and endeavor to accomplish our purpose in various ways, but the object of one and all is the same. We are all endeavoring to get what wealth we can, in the hope that it will contribute to our happiness in some way or in some degree. So long as we live in these physical bodies, we have to feed, cloth, house and care for them. These material things, classed under the head of wealth, must always count as of considerable importance; they will always have a great deal to do with our happiness. Therefore the question of how to produce the greatest amount of wealth in any community is an important one among every civilized people. This is the problem

of production in this and every other country—how a nation, a State, or a Province can produce most wealth with given conditions as to resources, population and capital. That is the problem. I want you to see that this problem of production resolves itself into another problem—How can we improve the industrial qualities of the people? You take natural resources; they are a fixed quantity; you cannot improve your natural resources except by the application of labor. Now, as to capital, which is another essential of production. Capital can be obtained only by producing something and then saving. That is the way capital is accumulated, and the people that have the ability produce a large amount and the disposition to save will soon become wealthy, and will have all the power capital gives to a community. Capital can be accumulated only by labor, so that the whole question of increased production resolves itself into how to improve the quality of the labor of the community—how to make the people more skilful, progressive and successful workers. Everywhere the great factor is the man, whether in the management of the business or the farm; that counts for more than anything else. That involves then the whole question of education, general and technical; how to improve our people; how to make them more successful, more progressive and more skilful workers—and especially education in its more practical forms.

I am glad to say that this country is rapidly coming round to the conviction that, after all, education should be determined in the long run by two things, function and environment. I think that the education that you give to a boy should be determined by these two things—What function or duties does he expect to perform in life, and, second, what his environment and surroundings will be—where is he going to live, and under what conditions. Education that goes straight ahead without stopping to consider what duties or functions the man will be called upon to perform in after life, or without stopping to consider what his surroundings will be, is on the wrong line. There is a vast field of knowledge that can be used to develop the mind, but while this process is going on, we must take care to fit the man, so far as possible, for his duties and surroundings in after life.

Your exhibitions point in that direction. These fairs, if they have the educational value that they ought to have, will tend to fit our young people especially for the duties they have to perform, and for living happily and prosperously in the community. What is the educational value of your fairs—in your Township and County Fairs, and your larger fairs, east, west and centre? They will always have an educational force—a very great one—on the young people, and the older people to some extent, too. The fair will affect their tastes and their morals, and it ought to affect their industrial qualities and make them better workers as grain growers or stock raisers, or in whatever direction they may work. There has been a growing conviction that the educational influences of many of our fairs have been on wrong lines; that latterly in too many places the directors, in their anxiety to make ends meet, have encouraged educational forces that tend rather to dissipation among the young people, if not a lowering of their tastes, and suggest things that are not desirable in a community. I am afraid that has been the case to some extent in our larger fairs, and also in not a few of our smaller ones. I believe you have set your faces to remedy this evil. The question is how to do so. I want that fairs should have a larger educational value. I believe our farmers have brains enough to give our fairs this value if they will set themselves to do it. I believe that the most important step in the accomplishment of this object is expert judging, including giving the reasons therefor. There is no doubt that this

implies a highly competent man. For my own part, I should hesitate to judge and give my reasons before the hard-headed farmers who meet at these shows—men who have been breeding and handling animals all their lives. But I think it is possible to produce such judges in this country; and one of the things that influenced us in starting the short course in judging at Guelph was that we might furnish this country with a fair supply of men competent to judge cattle, sheep and swine, and in the presence of intelligent men and women to give the reasons for their judgment. But with all we can do, either at the College or elsewhere, you will find that type of man very limited. You will find very few who can give the reasons. Often the men who are the best at practical work are the poorest at talking, and the men who can write by the yard and talk by the hour often show very poor practice at home. I suppose that is because a man cannot attend to everything. But when you get a man who is a good judge and a good speaker, and can state his reasons clearly and logically, you have a rare bird, and you will find the supply of that kind of men quite scarce, and I advise you to turn your best attention to the selection and preparation of such men.

The reasons should be stated in a tone of voice loud enough to be heard. To merely mumble your explanations in a low tone, that half the people cannot hear, counts for nothing. Do not talk merely to those who ask the questions, but speak to the people in the back seat also.

The next point is that, if you are going in for this sort of thing, you must make some provision for it at your fairs. At nearly every show of any importance there is a large central building of some kind. In connection with this building you might have a large room that would hold four or five hundred people. Or you might have an isolated building, where animals could be brought in. Require your judges, say, of horses, to bring in the first, second and third prize, state the reasons for the decisions and answer questions. Then you can bring in the cattle, sheep and swine and treat them in the same way. I would go a step further and compel the poultry judges to do the same thing, and see how many points they give for fancy feathers and how many for a valuable carcass. If the building is well lighted, the work can be carried on at night. You will either have to adapt your present building or provide a suitable building for these lectures.

I think it is time you insisted that exhibitors who receive prizes should keep their prize card on the animal that receives it, and not mixed up with the cards they have received for the last ten years. It should be so placed that it will indicate to visitors which animal really got the prize. They are very particular about that in Scotland. There every animal is numbered, and the number is displayed plainly on the animal. These numbers all appear in the printed catalogue. If the prize card is removed before the show is over, the prize is taken away. The main point is to educate those who look on, and if these things are neglected everything of an educational value is lost.

The next point is to get the directors to feel that an important thing in an exhibition is its educational work. I have great confidence in our Canadian brain and talent, and in our Canadian farmers especially. If you put them to work on this line and get them impressed with the thought that this is the important thing, they will find ways of accomplishing it. You should feel that this is what your exhibition primarily exists for; not to help a few who own the articles that win the prizes, but the many who are looking on. The real object of all this is, as I have said, to make the

people better workers; to make every boy and girl more skilful and progressive, or in other words, a better producer. Set your mind on the fact that the important thing in your exhibition is its educational value.

DISCUSSION.

Rev. C. B. Clark, Russell Co.: Speaking for myself and a majority of the directors, I may say that I think a step has been taken in the right direction in having these expert judges, and I am very much pleased to hear that the work is to be extended. I should like to see judges of grain added to the list.

J. E. Brethour: I should like to state a few of our experiences in judging in the Ottawa Valley. We went into the eastern district knowing no one. We were instructed to hew closely to the line, and not to show favors to anyone, but simply to lift up the standard that we had been taught to work to. We endeavored to do that. As a result, we have since found that our work was appreciated. All the animals brought forward were subject to criticism, so you will see that the educational value of the work was great. I can assure you that giving the reasons for the awards is not easy work. You are placed in a delicate position many times. It is a difficult task to adversely criticize an animal, with the owner standing close to you. But we found that all the exhibitors received our criticisms very gratefully. They told us they were satisfied and declared their intention to try to improve the standard of their stock. One exhibitor of pigs, for example, whose animals were of the undesirable type, said he saw just where improvement was necessary. Another year you will find these same men exhibiting animals that come nearer to the standard.

Dr. Mills has suggested that the work of the College will bring forward a class of judges suitable for the work. I certainly think that all judges who take this course should be granted a certificate of some kind, so as to indicate their ability to perform it.

I was impressed during my trip as I had never been before with the necessity of making our fairs more educational. I believe that the only way to accomplish it is by the appointment of a Superintendent of Fairs. The Superintendent would gradually work all the exhibitions up to the proper standard. If they do not come up to that standard, he will simply say that the grant shall be withheld. I do not think that the Township Fair should be cut off, but I do say we have too many fairs, because you can't have too much of a good thing, and if you can bring up the standard of them all, you will be doing so much more good. If you cannot bring up the standard, drop them out.

Mr. Geo. Gray, Newcastle: I visited the fairs of the Ottawa Valley last fall. I was told that we should be required to give addresses at the ringside and state our reasons for the awards. We found that a good deal was expected of us. We were largely advertised in the local papers and by posters. At the Russell County Fair I had to judge 209 horses in half a day. When I saw how those horses had been fitted up, I concluded there were scores of men among the exhibitors who know as much about horses as I did. Judging horses at that fair was a greater strain than judging horses at the Toronto Industrial. In one class there were four stallions, one of them imported. The imported animal was put second, and of course there was an immediate demand for the reason. This necessitated not only bringing out the strong points of the winning horse, but the weak points of the unsuccessful one. A task of that kind is a difficult one, but I think it is the only just and intelligent way to work. It will do away with the system

of giving the prize to the owner and not to the animal: it will do away with the cry that there is partiality shown. I see they are trying to adopt this system in England and Scotland. No judge ought to go into the ring unless he is prepared to give his reasons, and if he gets tripped up a time or two it will make him pretty careful.

As to the class of stock found there, I find that where they are mating the mares with Clydesdales or Shires, the result is very satisfactory. The young stock secured in this way is as promising as any I have ever seen. I found the Percheron horse more plentiful in the Ottawa Valley, and the results of the cross are very disappointing. I have no fault to find with the Percheron when he is kept to himself; pure bred, he is all right, but he evidently does not cross well with our mares.

Mr. Clark: From what I have heard of the results in Russell County, Mr. Gray's judging gave eminent satisfaction. One horseman said, after the exhibition was over: "I feel such absolute confidence in Mr. Gray's judging that if I took what I considered a really good horse to the fair and he told me it was worthless, I should believe him."

REPORT OF COMMITTEE ON MR. F. W. HODSON'S PAPER AT THE LAST ANNUAL MEETING.

In introducing the report, Mr. D. H. Price said: In placing this report before the meeting, I do so with a good deal of pleasure, first, because it lays down no strict set of rules that would interfere with the individual management of the individual association. If there is one thing that I would advocate more than another, it is that the entire system of management of these associations should rest with the directors, and not with any outsider or any Superintendent. I am strongly in favor of a Superintendent; at the same time, as has been said before, there are peculiar circumstances in connection with almost every section of the country which no one except the local directors can thoroughly understand or handle. We have heard considerable about special attractions, horse racing, etc. As I said last year, I am in favor of running the show without these special attractions, provided a scheme is found whereby it can be done successfully. My friend, the President, finds that his fair at Simcoe can be made an abundant success without that kind of thing. Mr. Sanders of Stayner wants a little horse racing. What I claim is that all these things should be raised to a standard. There should be a standard of results, although each individual association may have its own way of reaching those results. So long as you reach the desired end, I claim that the manner in which you reach it does not much matter, so long as you keep within bounds. I do not want to force upon the Simcoe or Stayner people my ideas about special attractions, neither do I want them to dictate to my association, so long as we can show the same results. We have introduced special attractions at Aylmer, and by their means we have raised funds which have enabled us to increase our prizes for agricultural exhibits in some lines from fifty-five to three hundred per cent. in three years. I hope those who oppose these things will be fair, and not condemn a thing without reason.

Report.

Your committee have carefully considered Mr. Hodson's paper, and see in it many valuable suggestions which we recommend to the careful con-

sideration of fair managers, and, where possible, the adoption of such of these recommendations as are suitable to their respective districts.

We further recommend that the Minister of Agriculture be respectfully requested to appoint at the earliest possible moment a Superintendent of Agricultural Societies, and that this officer assist the officers of such associations in the same manner as the Superintendent of Farmers' Institutes assists the work of said organizations.

And further that a committee be appointed by the President to meet with the committee appointed by the several Agricultural Societies in the Ottawa Valley to interview the Minister of Agriculture and bring before him this resolution, and impress upon him the necessity of rendering to the Agricultural Associations such assistance as will increase their usefulness and prosperity.

And that the thanks of this association be tendered Mr. Hodson for the assistance he has rendered the Province in bringing about what promises to be a new and prosperous era in the history of our Agricultural Association.

D. H. Price.
D. G. Hanmer.
Wm. Laidlaw.
W. B. Sanders
J. W. Sheppard.

THE AGRICULTURE AND ARTS ACT.

By Mr. C. C. James, Deputy Minister of Agriculture.

I had intended to make a few suggestions as to how to add interest to your exhibitions, but the ground has been pretty thoroughly covered by previous speakers, and the only thing left for me is to refer to a few points in connection with the Agriculture and Arts Act which governs Agricultural Societies. When you have nothing else to do, find fault with the Act. We shelter ourselves behind the Act at the Department. I suppose that some of the exhibitions take shelter behind it also. A great many of the officers and directors do not seem to understand that the officers of the Department are governed by that act just as much as they are. We have no more power to vary the wording of the Act than you have. We can interpret certain clauses if they are somewhat indefinite; beyond that we cannot go. If the Act says that a certain society must have so many members, we cannot say that so many less will satisfy us. If the Act says that a society must put in its report by a certain day, that report ought to come in. I suppose that every one here to-day represents a society that has lived up to the letter of the law. Just before I came away I asked the officer in charge to tell me how many societies were still deficient in their reports. There are 73 to-day that have not yet sent them in. According to the Act, these societies have forfeited all right to assistance. What are we to do about it? Withhold their grants? It is hardly right that the society should suffer because of incompetent officers. If Agricultural Societies are to be run systematically, there are certain formalities that must be observed. For instance, the Act requires that every society shall make its annual report within one month of the annual meeting.

DISCUSSION.

Question: Do you have many in arrears?

Mr. James: Yes, a great many; I have known them to be a year late. I find there is a great laxity in the observance of the regulations laid down

in the Act. In some cases societies will go on in this peculiar manner, and nothing is known about it, until some day somebody is dropped, or is left off the board, or some small trouble arises, and then they appeal to us to enforce the Act. For instance, the Act says that the annual meeting must be advertised for two weeks in a certain manner; if it is not done, the meeting is not properly held. It says that there must be so many properly qualified members present to vote. These things are often not enforced and pass unnoticed until some one has a grievance. Then a petition comes in, saying that the fees had not been paid, or that something had been omitted, and stating that the meeting was invalid. If the protest had not been entered, we should have known nothing about it. When discord is introduced into a society, the burden of deciding the matter is thrown upon us, whereas if the rules had been observed, there would not have been any trouble at all. Every year we send out a circular letter drawing special attention to these particular points.

I want to call attention to the amendment to the Act passed at this session of the Legislature. It is this: Hitherto the affidavit of membership for the current year has been dated Sept. 1. By the time we have gathered in all the affidavits for a certain district and have divided up the grant, and the Secretaries have received the cheques for the same, a large number of fairs have already been held, and officers are put to inconvenience because cheques come late. We have changed this date to August 1, instead of September 1, so as to give us a month longer in which to arrange this matter. This will enable you to receive the money not later than September 1.

Question: It is hard to get the required number of members by that date.

Mr. James: We carefully considered that. You have to start with so many members at the beginning of the year, and we think that if the society is enterprising there should be no difficulty in bringing the membership up to the required number.

Question: The bulk of the membership comes in a week or two before the fair?

Mr. James: But all we require at that time is fifty members for a township and eighty for a district society. If you start the year right and allow no one who is not a member to vote at the annual meeting, you will have no difficulty.

Question: Has the Board of Directors power to change the place of holding the fair?

Mr. James: No, this can only be done by the vote of the members of the society who are members of two years' standing.

Question: What position does an honorary director occupy?

Mr. James: He has no powers.

Question: Can we hold part of an exhibitor's prize money to pay next year's membership?

Mr. James: That depends on the rules and regulations of the society. This is a point on which many societies are very weak. They have not their rules and regulations in definite form, and have nothing to go on. They put their case before us, and we write and say, "What are your by-laws?" They have none. If the rules and regulations were printed in the prize list there would be no trouble. Usually those who join under these regulations can be held responsible under them. If this plan is not acted on, it is merely a question of who is right and who is wrong, and is often very difficult to decide.

Question: Do we understand you to say that if a rule is printed in the prize list to that effect, one dollar can be withheld from the prize money to pay the exhibitor's membership for the following year?

Mr. James: I should say so.

Question: We have been practising that for a number of years, and get a number of members early in the season in consequence.

Mr. James: To make it doubly sure, I would print on the ticket or receipt that so-and-so becomes a member subject to the rules and regulations of the society.

Question: What becomes of the money held over for membership fees? I quote the following from page 11 of last year's report: "Prize money held for membership fee. Another source of trouble in analysing the statements is, the prize moneys retained for membership fees for the following year. Such sums so retained are simply cash paid, and should appear in the receipts as such for that year. Why should such money be held in abeyance, in the Treasurer's hands? It is contrary to the Act and cannot be passed over by the Department."

Mr. James: What we mean by that is that a great many Treasurers will not put it down in the Treasurer's statement; they put it in their pocket till the next year. The Treasurer's statement should represent every dollar in the Treasurer's hands at the end of the year. It is a cash statement. If any money has been held over as membership fees for the coming year, that ought to be shown in the form of "cash on hand."

Question: Have societies power to administer the oath in trials of protests?

Mr. James: I do not think so; there is nothing in the Act to give it.

Question: I think that power should be given them to demand a satisfactory declaration from exhibitors. Every year we have trouble in this connection.

Mr. James: If the directors like, they can compel an exhibitor to make a statutory declaration. Your rules and regulations should be specific in this regard also.

Question: Can the Government grant, gate receipts, etc., be applied to improving the grounds, buildings, etc., and the payment of prizes refused?

Mr. James: That would not be keeping faith. You enter into a contract with the exhibitor, and he can sue for the fulfilment of the conditions; there is no doubt about that.

Question: Has the society power to demand of a prize-winner a statutory declaration to the effect that he has complied with the rules and regulations?

Mr. James: I should say that it has, if it is so stated in the rules and regulations, and if there is evidence of fraud.

Question: How can an exhibitor, as a member of a society, sue himself for prize money?

Mr. James: A stockholder in a company can enter suit against a company to carry out its agreement.

I listened to your discussion in regard to the question of Superintendent of Fairs without saying anything. I saw that you were pretty well agreed upon the matter; but it occurred to me that perhaps Mr. Creelman's position ought to be a little more carefully considered. I know there is an opinion abroad that a civil servant has no work to do, and that to give him some is all right. But you are starting on a work that will grow to very large proportions, and I am not quite certain that we are not asking a little too much in putting this extra work upon Mr. Creelman. I do not

know whether that was carefully considered by you or not, but it ought to be borne in mind, as the time may come when the work will assume large proportions. The only grounds on which I would agree with such an arrangement at all would be that for the present at least the work should be done along Farmers' Institute lines. I know that Mr. Creelman has his hands pretty nearly full already; but I have no doubt that the Minister will carry out your suggestion, if it can be carried out. There is such a thing as overworking a willing horse. Perhaps if you will bear that in mind you will give him more assistance than you otherwise would. I know that work is piling up in connection with the Department of Agriculture a little faster than provision is being made for dealing with it. We are getting more funds from the Legislature as rapidly as we can. It is easy enough to pass resolutions saying that certain things should be done, but it is not so easy to get the money necessary. Perhaps if we were to get this body up to the Legislature we might persuade them to give us a little more money. I would not suggest this, however, but would advise you to see that your representatives are fully informed as to the necessity that this or that fund should be provided without reluctance. This is a point of very great importance.

RESOLUTIONS.

Moved by Mr. Price: That the following committee be appointed to meet the Ottawa Valley people and have a consultation with the Minister on the question of appointing a Superintendent of Agricultural Societies, namely: J. T. Murphy, Alex. McFarlane, D. G. Hanmer, Charles Shearer and John Howden. Carried.

It was moved by Mr. Welsh, seconded by Mr. John George, that this association endorses the suggestion as to an appointment of a Superintendent of Fairs, and recommends that Mr. George C. Creelman, Superintendent of Institutes, should receive the position, the idea being that exhibition directors may apply to him for expert judges, the directors at the same time delegating to him the right to arrange the dates of their fairs, so that there may be the least possible labor and expense involved in carrying out the plan; but that this will not interfere with an association following the old plan if the directors prefer it. Carried.

It was moved by Mr. Metcalf and seconded by Mr. Hemsworth, that the present method of apportioning the Government grant between district and township societies was unfair to township societies, and that the association recommend the Government to take steps to have the matter adjusted.

DISCUSSION.

A delegate: I think that the district societies are perfectly satisfied. They are not getting more than they should have. They have to cover a large territory and it is necessary that they should get a larger share of the Government grant.

The President: If we enter into this matter you are going to make trouble in the association, and mark my word, the result will be dissolution.

Mr. Price: I quite agree with the President. I do not think the matter is of sufficient importance to allow it to bring discord into the association. As a district man, I am willing to support the motion asking the Government to look into the whole question as to whether the grant is fairly divided, and if not, to make it fair; but I am not prepared to say that it is unfair.

Mr. Sanders: I think I am responsible for introducing this resolution. I want to assure you that I had not the faintest idea that it should be arbitrary in its character. I am sure everyone interested in the question is quite willing to accept Mr. Price's suggestion. We feel strongly in the matter, but not strongly enough to wish to introduce discord into the association. I admit that in some districts the division of the grant is fair enough; in other cases the district society gets from $500 to $600 out of the $800, leaving a mere pittance to be divided among the township fairs. I appeal to the gentlemen who get the lion's share of this grant to treat the township fairs right. I am willing to withdraw the motion if Mr. Price will draft one, asking that the matter be investigated by the Department.

The President: I have been working in this association for four or five years. We have asked to be helped, and we are now getting on a basis where we can accomplish some good. We must not allow this matter to come in now and create strife. I ask that the resolution be withdrawn, and that if anything is done an appeal be made to the Minister to see if a more satisfactory basis of division cannot be devised.

Mr. Metcalf: As a mover of the resolution, I agree with what the President has said as to the position of the association, and the fact that we have opportunities for effective work ahead of us. If the districts are not getting more than they are legitimately entitled to, they have nothing to fear. If they can show that the townships are getting all they are entitled to, that is all we want, but we want fair play; but I would rather get no grant from the district society than interfere with the usefulness of this association. If anyone thinks the resolution unfair, I am willing to withdraw from it.

A Delegate: I do not see how a district society can draw $500 or $600.

Mr. James: There is one that gets $800, simply because there are no branches, but this is a rare occurrence.

The resolution was thereupon withdrawn, and the following substituted:

Moved by Mr. Metcalf, seconded by Mr. Hemsworth, That, in view of the fact that some difference of opinion seems to exist in regard to the present division of the Government grant, this association would respectfully ask the Minister of Agriculture to investigate the whole subject, and if after considering the matter from every standpoint any unfairness is found to exist, to take steps to remedy the same. Carried.

Mr. James: The division of the grant is one of the few difficulties we have to contend with in the Department. If you can help us work out any of these difficulties we shall be obliged. We have thought over this question and have several times almost ventured to make some change, but have always found too many difficulties in the way. If you propose that we should work in a little closer relationship with the officers and directors, I simply say, on behalf of Mr. Creelman and the Department, that we shall be only too glad to do it. If you are going to change the present basis of division, what are you going to put in its place? Just turn that over in your minds and give us your suggestions. It does not necessarily follow that the richest, best and most prosperous societies should be helped to the greatest extent. Perhaps the society that is least able to help itself should receive the most help. There are many questions to be considered; but if you have any practical suggestions, let us have them.

Mr. Creelman: I was appointed last year to draw up a set of rules and regulations for the use of Agricultural Societies. I immediately secured copies of the prize lists of the different societies in Ontario. These lists were carefully gone over and a selection made of the regulations that appeared to be the best. Afterwards I called the committee together. When

the Live Stock Associations heard of what was going on, they became interested and appointed committees to meet with our committee to see that their associations had fair play. In that way we got together a committee of about twenty-five. The result was that this committee threshed out a set of regulations that we believe are workable. I would suggest that this set of rules and regulations and also the model prize list which we have drafted should be printed at once and submitted through my office direct to each Secretary and President of every Agricultural Society in the Province, and that they be asked to call their Boards together and make a report on it to me within ten days, offering their criticisms on the margin, and that afterwards the committee be called together to consider their suggestions and make any amendments they may see fit.

After some discussion as to the length of time that would be required to submit these regulations to the societies and obtain their suggestions, it was moved by Mr. F. W. Hodson that the suggestion made by Mr. Creelman should be accepted. Carried.

Mr. Creelman moved that the minutes of the last meeting, which would appear in the report, should be taken as read. Carried.

Mr. Gifford, Meaford, introduced the following resolution on the cattle-guard question:

That our President and Secretary are hereby instructed to sign on behalf of this association, a petition to the Dominion Parliament, praying that such legislation may be passed as will make railway companies liable for all damage done to stock getting on a line of railway from the highway through the failure of companies to erect and maintain cattle guards and fences at highway crossings.

Mr. A. J. Reynolds, of Scarboro', in seconding the resolution, said that it referred to a matter of vital interest to the farmers of the country, and that he believed it would be well for the farmers to give an expression of opinion upon it.

The resolution was then put to the meeting and carried unanimously.

After passing a vote of thanks to the Council for the use of the hall, the meeting adjourned.

AGRICULTURAL EXHIBITIONS.

By F. W. Hodson, Dominion Live Stock Commissioner, Ottawa.

Before the Agricultural Experimental Union, O.A.C., Guelph. December 9th, 1901.

Unrest Throughout America. I find that throughout America there is everywhere a growing opinion that the Agricultural Exhibition Associations are not accomplishing the results desired. The Hon. G. H. V. Bulyea, Commissioner of Agriculture in the Government of the N. W. Territories of Canada, writing from Regina under date of October, 1901, says :

"This Department undertook the appointment of Judges for Agricultural Exhi-"bitions three years ago. The method has proven an unqualified success. I consider the "plan might still be improved by elaborating it a little more and by fixing the date upon "which Exhibition shall be held. I do not propose, for instance, to decide whether a "summer fair or a fall fair should be held, but when an Agricultural Society shall have "decided this point, I think that if the Department is asked to supply Judges, it is "absolutely necessary that the Department insist on fixing the date of the show. We "found in one case this fall that it took a judge three weeks to officiate at four exhibi-"tions, whereas, if the Department had had the fixing of the different dates we could "have made a group of ten or twelve exhibitions which could have been served in the "same time. However, the plan of furnishing judges has been enthusiastically received

"by the societies themselves. (This year this Department was requested by the officers "to send judges to every exhibition in the N. W. Territories but one.) I do not an- "ticipate any difficulty in carrying the plan out next year along the lines I suggest."

Exhaustive enquiry among the agricultural societies of the Northwest bears out Mr. Bulyea's statements in every particular. I have received a great many letters, each of which was written by the President or Secretary of a Western Agricultural Society. The following are fair samples of all the others. All were addressed to the Hon. Mr. Bulyea :—

"Your letter notifying me of the appointment of a Judge at the Regina Exhibition "to hand. I can assure you that the action of your Department is most deeply appre- "ciated by our Association, as we have always experienced a difficulty to obtain judges "above any suspicion of incompetency.

"Another year I sincerely hope that our Fair dates may coincide a little better "with our neighboring societies, so that should the Department again see fit to provide "judges, we shall to some extent be aiding it in its work.

"HAROLD D. BUCHANAN, Secretary, Cottonwood, Assa."

"Yours of 23rd inst. is just to hand and contents noted.

"Our society intend to hold an exhibition on August 6th, in order to follow as "conveniently as we were able to arrange dates with outside shows, and I may add, that "as the outside judge was a matter of the greatest possible satisfaction last year, we "will be very glad of such an offer this year. I have seen a number of the directors in- "dividually, and find this opinion universal. A meeting is called for the 15th inst., "when the matter will be brought up officially.

"JNO. C. SLATER, Secy., Prince Albert, Sask."

"Our Agricultural Society (Wetaskiwin) purpose holding our show on July 10th. "I will mail you a copy of the prize list. We are very anxious to have judges appointed "by the Government for horses, cattle, sheep and swine.

"Kindly answer letter at once, letting us know if Government judges can come.

"JNO. MCVICAR, Secy., Wetaskiwin, Alta."

"The above association intend to hold a Summer Fair at Edmonton on July 1st "to 4th. We have announced in our prize lists that we will, in so far as possible, se- "cure our judges from the Government. We need judges for horses, cattle, sheep, swine, "grains and grasses. The action of the Government in supplying judges is highly ap- "preciated by us, and will do more to increase the interest in Agricultural Societies than "anything you could have done. An impartial and competent judge, furnished under "the conditions stated by you, is simply splendid. Kindly accept our hearty apprecia- "tion of the Government's action in this matter.

"Would the Judges appointed kindly write me, concerning any printed forms they "may need, etc. I enclose prize lists for distribution among them. Any suggestions "would be gratefully received.

"ARTHUR G. HARRISON,
"Secretary Edmonton Industrial Exhibition Assoc., Edmonton, Alta."

"I am directed to inform you that we will require the services of a judge in the "horse, cattle, sheep and swine classes at our exhibition to be held here on August 7th "and 8th.

"This society appreciates the very liberal policy of the Department in this matter.

"J. C. STARR, Sec.-Treas. Central Assa. Agricultural Society, Qu'Appelle Station, N.W.T.

"In reference to judges for our show, to be held here this year, I hope the Gov- "ernment will see fit to follow the same course as they adopted last year, by furnishing "judges to judge the stock. Will you kindly inform me if the Government at Regina "will supply us with judges this year as usual, and oblige.

"A. MATHESON, Secretary, Qu'Appelle, Assa."

"I beg to draw your attention to the following resolution passed at the annual "meeting of the Lethbridge and District Agricultural Society, held on the 6th of De- "cember last :—

" 'That Wednesday and Thursday, the 4th and 5th days of September, be fixed " 'as the dates for the Exhibition of 1901, and that the Secretary notify the Government " 'of his selection, and intimate to them that the Society would be open to change its

"'dates if the Government can arrange a series of dates with other societies in Al-
"'berta, so as to avoid clashing, if notification thereof is given to this Society before
"'May 1st, 1901.'

"I would be glad to receive your opinion of this matter as soon as possible.

"C. B. Bowman, Secretary L. & D. Agricultural Society, Lethbridge, Alta."

Expert Judging in the United States. In order to obtain definite information in regard to the success, or otherwise, of the plan of employing expert judges at the Fairs in the United States, I sent the Secretary of each Board of Agriculture, Experiment Station, and Farmer's Institute System, a copy of the following circular :—

"The Province of Ontario is spending nearly $400,000 per year in the promotion "of Agricultural Associations. Most of this money is spent in holding annual exhibi-"tions. These county and township shows have degenerated very much within the "last twenty years, but particularly within the last ten years. We are carefully con-"sidering steps by which they can be made to fill a much more useful niche than here-"tofore. As an experiment this year, a number of these shows were arranged in a "circuit, and the exhibitions were held, one immediately after the other, and expert "judges were sent to do the judging in the cattle, sheep, horse and swine departments. "At each show, after the judging was done, each judge gave his reasons for awarding "the prizes as he did. The plan of sending these expert judges to the county and town-"ship fairs has this year proven an unbounded success. Has anything of this sort been "done in your State, and if so, with what results ?"

Replies have been received from California, Colorado, Georgia, Iowa, Illinois, Kansas, Kentucky, Maine, Maryland, Michigan, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Jersey, New York, North Carolina, North Dakota, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Vermont, West Virginia, and Wisconsin. In most of these States the expert judging system had been adopted only in a tentative way, if at all. Wherever tried, it has given good satisfaction, and my correspondents in these States, where it had been tried, write very favorably of it. The following are quotations from some of the letters I have received on this subject :

"We have a system of district fairs in our State, which has fifty-two counties. "These fairs have not been a success from an agricultural standpoint, but have been "given up mostly to racing meetings. We have an annual State fair which has done "great good, but it has not received the support and patronage it should. We have "employed expert judges in some of our Departments during the State fair for several "years, with good result, but we have not a sufficient number of breeders of any of "the varieties of Live Stock to insure interested crowds around the show ring, as a "consequence the educational result of the awards is lost. It is the present policy of "the Board to continue the expert judging system, however, and to extend it. If this "was done, and the number of our district fairs reduced to ten or less, and efforts made "to develop their agricultural features, and have them adopt the expert system, I think "good results would follow.

"Peter J. Shields, State of California."

"Answering your inquiry, I beg to say that there has been a continually increas-"ing demand during the past ten years for expert judges from the College to serve at "County, District State fairs. At the outset this demand was rather limited, and was "confined mainly to the instructors of recognized standing. Recently, however, the de-"mand from county fairs for advanced students has grown very rapidly, and during "the past year far exceeded our supply of available men. The services of expert judges "seem to be quite generally appreciated by fair managers and directors. The present "plan has largely superseded the old system of picked up committees on the fair grounds. "There are a number of fairs on our list that send back for student judges year after "year, which indicates that the system is giving excellent satisfaction.

C. F. Curtiss, State of Iowa."

"In regard to your inquiry as to the prevalence of expert judging at the fairs "of our Agricultural Societies, will say that in 1893 this Board adopted the following "rule for the guidance of the various societies, viz :—

"'Rule 8.—Each Society drawing bounty shall adopt the scale of points established
"'by the Board of Agriculture, in awarding premiums on live stock, vegetables and

"'fruits, and shall employ an expert, or experts, on judging the same, and no premium "'shall be paid by any society in any of the said classes, unless the exhibit shall have "'been judged by the aforesaid scale of points, to the end that there may be uniform "'modes throughout the State.'

"At the same time scales of points for the various classes of live stock, fruit, "vegetables, etc., were adopted by the Board, a complete set of which we are sending "you, so that you may have a better idea of our requirements. A list of men qualified "to act as Judges was also prepared by this office, and sent to the officers of the various "societies, to assist them in making selections of competent judges. The societies were "required to pay for the score cards ordered, and to pay the expert judges and for that "reason the selection was left entirely in the hands of the officers of the various agri-"cultural societies. There have been, of course, infractions of this rule, but in the main "it has been well lived up to by the societies, and expert judging is the custom with "all our societies. Some societies still use local men for the purpose, but the greater "majority employ judges coming from a distance, in all the live stock classes, and for the "fruit and vegetables. We regard this as the better practice, as, while local men may "be entirely as competent and fair as those from a distance, experience shows that the de-"cisions of judges less well known locally are accepted with a better grace in many in-"stances. The judges are expected to explain the reasons for their awards to any one "making enquiries, whether from dissatisfaction or curiosity, but I do not know of any "cases now where they are expected to give any demonstration as a part of their re-"gular duties.

"In conclusion on this subject, I would say that the expert judging and scale of "points has given very satisfactory results indeed, and that they have been the means "of bringing about a considerable improvement in the exhibits at our fairs, and also, "I believe, of benefit to the general agriculture of the State.

"J. W. Stockwell, State of Massachusetts."

"I most heartily recommend the practice of having an expert judge attend the "local fairs, and explain the reasons upon which his decisions are made. We are trying "at the state fair, and at several of the local fairs, where, in fruit, vegetables and "farm crops, and in live stock, the judging is done by experts sent out from the college. "In the live stock department especially the reasons are given for the decisions made. "It is working admirably. For the most part, however, our county fairs are degener-"ating into horse races.

"C. D. Smith, Director Experiment Station, State of Michigan."

"The only work we have ever done, which we have done from time to time, as "we have opportunity, and as we could afford assistance, and a work which has also "been done by our State Experiment Station, is to send expert judges to the County "Fairs as far as we could. This has been done more or less for fifteen years. That "work is commendable; it is well received; and if the Fairs do exist that class of judges "must be employed for there are many people to-day who know much of live stock "and quality in our domestic animals, and they would not tolerate a man in the ring "who did not, at least, know as much as they did about those matters. This was quite "different fifteen years ago. Then it was customary to pick a man here and there to place "the ribbons upon the stock. These judges of course meant well, but their judging was "a very rude guess.

"O. C. Gregg, State of Minnesota."

"I have your favor relative to prizes offered at agricultural fairs, and the sys-"tematic efforts you are now making to make these fairs of an educational nature. I "believe this to be very desirable, and I think you have certainly been fortunate in "the method by which you have attempted to secure these results. I should be glad "to see a similar movement in our State, but as yet no such movement has been put "on foot.

"E. A. Burnett, State of Nebraska."

"I desire to congratulate you on your advanced position in regard to furnishing "expert live stock judges for such shows and the excellent practice of requiring that "the judge shall give his reasons for his awards.

"Tait Butler, State of North Carolina."

"There are a number of expert judges who go from one fair to another, but they "are paid by the fair, and are only compelled to give their reasons for awarding a prize "in case of exceptions being taken to an award. I think the system you propose is a "very good one.

"J. P. Nissley, State of Pennsylvania."

"Most of the fairs in our state have adopted the plan of procuring expert judges, "but the better principle of the judge giving either printed or oral reasons for the award "is certainly an advanced step. It is a part of my work to collect information regarding "these societies, and make such recommendations as may be deemed beneficial, hence "I appreciate very highly the information contained in your letter regarding the work "of these societies in the Dominion of Canada. I have attended quite a number of these "shows this year, and find it of first importance that the best plan be adopted to more "fully encourage the competition and exhibition of all lines of farm produce and dis- e with, as far as possible, the side show business and games of chance, and all "such gambling devices, that for one reason or other, seem to have crept in, and taken "the place of more useful and profitable exhibitions.

"A. L. MARTIN, State of Pennsylvania."

"For a long time I have personally urged that all the county and district fairs "of the State should be arranged in circuits. We have several such circuits of County "fairs in Wisconsin, but the State as a whole is not organized in this way as it should "be. The system of judging stock and giving reasons for the awards is the only correct "system, and I hope the day is not far distant when all fairs will adopt this plan. Much "has been done along this line in our State, and there yet remains much to do.

"GEO. MCKERROW, State of Wisconsin."

Much Injustice is Done by Present System of Judging.—If this plan were adopted, one judge should be sent to each division to judge horses, one to judge beef cattle and sheep, one to judge dairy cattle and pigs, one to judge poultry, one to judge fruit; some one on each deputation should be able to judge roots and vegetables. In each class a good local man should be added. This local man would in this way be educated for the work, and competent men be available. The work of each judge should be carefully and impartially reported to the Superintendent by the officers of each association, on blanks provided for the purpose, within ten days of the close of each Exhibiton. These reports are strictly confidential, and by them the work of each judge could be closely followed. Suitable men could be continued, year by year; unsuitable or dishonest men could, and would, be at once detected and discharged. Suitable men could be employed as judges for several months each year, and properly paid for their services, as Institute lecturers are now. Competent judges residing in Manitoba could be brought to Ontario; Ontario men could be sent to Manitoba. Such an exchange could take place throughout Canada, and would serve many good purposes. This course would encourage good, practical farmers to fit themselves to act as expert judges. As it is now, it is a hardship and a loss to a suitable man to act as judge. The employment of incompetent judges is a great injustice to exhibitors. It is a serious matter for the farmer to spend money, time and feed in fitting a stud, herd, or flock, and at the end of six or eight months have the prizes placed by a novice, or, worse still, by a knave, some crafty competitor has had appointed. At the smaller shows the novice is frequently appointed; at the larger shows the knave too often appears. The present system of appointing judges and making awards has in many cases lost all educational value. Many of us have lost sight of the fact that the public funds given to the Agricultural Associations are granted for educational purposes. Steps are now being taken by both the Dominion and Ontario Departments of Agriculture to hold at given periods and places in Canada, short courses where men, already good judges, may attend for a few weeks once or twice a year and hear lectures, and be given instructions in judging by the best known live stock experts in each separate class or breed of stock. One of these classes is to be held at the O.A.C. at an early date. Each person regularly employed as a judge, under the new scheme, must attend at least one of these courses each year. At an early date an authorized standard of excellence of each breed of live stock will be issued. All awards should be based on this standard ; as it is now, each

judge places prizes according to his own ideas only. The standard of excellence when completed will have the approval of the Board of Directors and membership of the societies representing each of the respective breeds. As necessity demands, each association can amend or alter the standard for the breed which it represents, when a new standard will be issued. This plan will effect a great improvement both in judging and in the type of animals found throughout Canada.

Prizes at County and Township Exhibitions.

The following list of prizes might, with good results, be offered :—To the children of the School Sections within the bounds of each respective "County" or "Exhibiton District." To the School Section making the best and best arranged display of grain in the straw, the growth of the current year. Similar prizes may be offered for fruit, roots and vegetables. To the School Section making the best and best arranged exhibit of flowers grown on a school ground, all work in connection therewith to be done by the pupils, under the teacher's direction, and with his or her assistance. Prizes for best and best arranged collection of pressed and mounted wild flowers, plants, leaves, etc. Prizes for the best collection of weeds and weed seeds. Prizes for the best collection of beneficial and injurious insects, etc. In all cases, grains, fruits, vegetables, flowers, plants, insects, etc., to be correctly named and labelled,—in case of plants and insects it should be indicated whether beneficial or otherwise. In each case all exhibits must have been grown within the School Section and collected and arranged by the children, assisted and directed by their teacher. Prizes may also be given for athletic competitions (for particulars see Mr. Cowan's report, given later). In this connection I refer the reader to an innovation at Byron School, Middlesex Co., Ontario, which was successfully carried out on September 26th, 1901, by Mr. F. V. Langford, teacher at the school named. One room of the school was reserved for exhibits of fruits, grains, vegetables, and other products of the farm, collected and analysed by the children, and many a meritorious one there was. Messrs. Henry Wickerson, B. Wells (trustees of the school), and A. McConnell were judges. The other room of the school was prettily decorated, and prior to the sports, a programme of a number of graphophone selections was rendered. Subsequently scholars and parents adjourned to the grounds, where the following races, engaged in by the children, took place : Boys' race, 10 to 12; boys' race, over 12; boys' race, 8 to 10; boys' race, under 8; girls' race, 10 to 12; girls' race, 8 to 10; boys' and girls' race, under 8 ; hurdle race; a three-legged and fatigue race was also run off. A committee consisting of four pupils, two girls and two boys, and the teacher, were the committee to arange the programme. The work proved a valuable experience to children and parents. I give this data as an example of what has been done.

I visited Great Britain this year, and attended several large exhibitions, including the "Royal," the "Highland Society Show," "The Royal Counties," as well as several of the smaller shows. At British Exhibitions, both great and small, the fakir has no place. The shows there are agricultural and educational. The most intelligent people of all classes attend, and are benefited by so doing. Canada should revise the management of her Exhibitions. If an Exhibition cannot be conducted on a large scale and meet with expenses without employing fakirs, and other doubtful means of attraction, then let it be reduced in extent and made educational. It will then steadily improve. Unless a different system is adopted in the management

of many of Ontario's Agricultural Exhibitions, most of them must cease. None of them will be as successful as they should be; by reorganization all will be put on a safer and better plane.

Several Societies in Ontario have for years bought and kept stud males for the use of the members, one township owning as high as 18 Shorthorn bulls. One Society owns the best Clydesdale stallion in America; another Association owns two very fine Clydesdale stallions.

The Practical Working Out of the Scheme. An important test of the plan of engaging expert live stock judges for a series of county Fairs was made, with my assistance, last fall, in the Ottawa Valley district.

Three expert judges visited ten county Fairs, and the plan and the judges gave general satisfaction.

The experiment was tried through the initiative of Mr. H. B. Cowan, Editor of The Ottawa Valley Journal, who last winter called to see me, to talk over the Ontario Fair system, and who acted throughout as Secretary of the Board of Judges. Mr. Cowan stated that he visited most of the Fairs of the Ottawa district the previous fall, and found they were being seriously injured by their inability to obtain competent, impartial judges. We discussed the idea of having the Fairs of the Province arranged in divisions, and held in the same way that the Farmers' Institute meetings now are, so that sets of competent judges could be appointed to do the judging in the various divisions. It was finally agreed that if Mr. Cowan would obtain the consent of eight County Societies to accept three expert judges, and to pay at least ten dollars each towards the judges' expenses, I would select and engage the Judges, and meet any additional expense which might be incurred.

In September Mr. Cowan reported to me that he had taken up the matter with the different County Societies, and that ten of them had agreed to accept the services of the judges, and to pay ten dollars each towards their expenses. Mr. Cowan requested that I should appoint the judges. In compliance with his request, I appointed Messrs. G. Gray, Newcastle; D. G. Hanmer, Mount Vernon, and J. E. Brethour, Burford.

The following report on the success which attended their work has been made to me by Mr. Cowan:—

Report on Expert Judges at County Fairs.

The measure of success which has attended the innovation of having expert judges from a distance visit the County Fairs of the Ottawa District and judge the stock, has exceeded my most sanguine expectations.

Not only are all the societies delighted with the experiment, and eager to have the system continued, but they are desirous that extra expert judges shall be appointed for the other branches of Fair work.

The Counties Visited. The ten county fairs visited by the judges were the Glengarry, Carleton, South Lanark, North Lanark, South Renfrew, North Renfrew, North Pontiac, South Pontiac, and Wright. They include the majority of the counties of the Ottawa Valley and District.

The great advantages gained by having the judging done by competent, impartial men became apparent at the first Fair visited.

In previous years, when the judging had been done by local parties, the directors always had much difficulty in settling amicably the numerous complaints received from exhibitors that the judges had been incompetent, or that they had given the prizes to their friends. Frequently these complaints went so far as to claim that here had been an understanding between some of the directors and the judges to award the prizes to certain parties.

This fall no trouble of this nature arose, as it was known the judges were experts, that they had been appointed by outside parties, and that they had no friends among the exhibitors.

The manner also in which they went about their work created a most favorable impression. In all the classes every animal brought before the judges was carefully inspected. If the competition was at all keen, the judges always examined the rival animals by hand thoroughly, to detect good or bad points, which might otherwise be overlooked. Blemished animals, no matter how good their quality, were always quietly set to one side, or sent out of the ring.

Gave Their Reasons. As soon as the judges reached their decisions they usually had the animals lined up in order of merit, that they might point out their strong and weak points to the exhibitors and spectators, who were always invited to ask questions. Many took advantage of the opportunity offered, and in the resultant discussions, points in breeding were frequently brought out, of which those gathered around had never even heard. Exhibitors were often shown how they could improve their animals when again preparing them for exhibition.

So general was the satisfaction felt with this manner of judging that it frequently happened in the different counties that exhibitors in some of the classes, passed resolutions or circulated and signed statements, expressing their approval of the work done by the judges, and a desire that only similar capable and impartial men should be appointed as judges in future.

Statements of this kind were signed by the sheep exhibitors in Glengarry County, the cattle exhibitors of South Lanark, the sheep, cattle and swine exhibitors of North Lanark,the sheep and swine exhibitors of Carleton County, and by the cattle, sheep and swine exhibitors of North Renfrew.

The chorus of praise which was awarded the judges on the completion of their work in the first county was repeated regularly as they passed from fair to fair.

This general satisfaction is best shown by the fact that, although between 2,500 and 3,000 animals passed under their inspection, I only heard some twelve complaints, all told.

Since the fairs, resolutions endorsing the system, and expressing a desire for its continuance, have been forwarded me by the boards of directors of the South Pontiac, North Pontiac, Wright, South Renfrew, North Renfrew, South Lanark, North Lanark, and Russell societies. The secretaries of the other two societies have notified me that their boards intend to pass similar resolutions at their first meeting.

Leading local newspapers were also quick to note and approve of the work done by the judges, and to express the belief that the new system of judging should be continued. Among these might be mentioned the Alexandria News, Shawville Equity, Perth Expositor, Almonte Gazette, Carleton Place Herald, and the Renfrew Mercury.

Valuable Features. An important feature of this fall's work was the fact that the judges, on account of their wide experience, were able to make valuable suggestions to the different boards of directors. Where prizes were offered for general purpose stallions, or for grade boars or rams, the practice was always decried, while the giving of prizes for the best pen of bacon hogs,—the type of animal now in demand—was as strongly recommended. Most of the societies, I am glad to be able to say, assured me that they intended to adopt these suggestions.

Interesting Contest. Great interest was taken in a contest to see which county could make the largest and best exhibit of stock at its county fair. As a prize a handsome flag was offered by the Ottawa Valley

Journal to the winning society. The standing of the counties in the contest was left to the expert judges to decide. Greatly to the delight of its residents, Russell County won the flag. The victory was well deserved, as several months before the fair, the supporters of the Russell Agricultural Society used every effort to have all the farmers in the country who had good animals, bring them out to the fair, to help the county win the flag. The result was that the exhibit made this year was the largest ever made by any county in this part of the country. Many of the animals exhibited were brought as much as thirty miles. Over two hundred horses and one hundred and fifty head of cattle were shown.

The standing of the counties was decided by points,—40 being allowed for number of entries, 40 for the quality of the stock, and 20 for condition Each county was afterwards informed of its standing, and shown where its exhibits were weak.

The idea of holding this contest was to lead the residents of each county to take a greater interest in their county fair, and to induce men, who might not otherwise exhibit, to bring out their stock.

Deserve Credit. This report would not be complete without reference to the very capable and painstaking work done by the three expert judges, Messrs. G. Grey, of Newcastle, D. G. Hanmer, Mount Vernon, and J. E. Brethour, Burford, each of whom did everything in his power to give as general satisfaction as was possible, compatible with just decisions. On several occasions all three gentlemen were put to great personal inconvenience while travelling from fair to fair. The universal satisfaction their decisions gave is the best possible proof of their ability.

Great credit is also due to Prof. J. H. Grisdale, Agriculturist of the Central Experimental Farm, Ottawa, and Messrs. John Campbell, Woodville, G. H. Clarke, B.S.A., and W. A. Clemons, Ottawa, who on different occasions, and generally at very short notice, kindly took the place of one of the three regularly appointed judges, who, through sickness or some other cause, was occasionally prevented from attending some one of the fairs.

A Weakness. This year's work has revealed a weakness in the present fair system, which will have to be overcome before we can again hope to secure expert judges. Owing to the fact that neighboring fairs do not follow each other in consecutive order, the judges were forced to pass several times over the same ground, thereby adding greatly to their labors, and more than doubling their travelling expenses. A serious loss of time, and a consequent heavy increase in expense, was also caused by intervals of several days which occurred between some of the fairs.

Could the dates be so arranged that each exhibiton in a Division would follow, with as slight an interval as possible, the one held in the adjoining fair district, the expense incurred by the judges could easily be reduced one third, and possibly one half.

Another good result which would follow such an arrangement is the fact that a number of leading mercantile and machinery firms would be willing to make large exhibits at each of the fairs, were they enabled to do so, without incurring the unnecessary extra travelling expenses, and delays, that would be encountered under present conditions. Directors with whom I have discussed this mater all agree that great benefit would be derived by all the fairs in a division, were they once arranged in a circuit.

I trust you will see from this report how successful the experiment has been, and that you will realize how universal is the belief that, if the present system of judging can be continued, the educational value of the fairs will be greatly increased, and much be done to restore public confidence in their favor.

As a fair example of the working out of this scheme, I give the report of the Contest for the Champion Flag, referred to in Mr. Cowan's report. This report will be a useful guide for future contests of a similar nature.

County Competition in Exhibits of Live Stock.

Russell county, judging from the exhibit of stock made this year at its county fair, has the best stock of any county in the Ottawa Valley or District.

North Lanark is entitled to second place, and South Renfrew to third.

The expert live stock judges, who this year visited and judged the stock at all the county fairs in the Ottawa district, have completed their report on the showing of stock made at the various fairs. This report shows the standing of each of the ten counties as to the number, quality and condition of the horses, cattle, sheep and swine shown at their different county fairs.

The standing of the different counties, as shown by this report, and the number of points they have been allowed, is as follows :—

Russell—347.
North Lanark—305.
South Renfrew—275.
Carleton—272.
North Renfrew—243.
South Pontiac—236.
South Lanark—214.
Glengarry—213.
Wright—172.
North Pontiac—145.

The detailed statement given below shows just how the counties stand as to their different exhibits.

Although the statement here published gives a fairly good idea of the exhibits made by the different counties, the following additional information is of interest.

Russell County had considerably the best exhibit of horses. Over 200 horses, hardly one of which could have been called poor, were shown.

Russell County also had the best all round exhibit of cattle. Over 150 head of cattle were brought out.

Carleton County had the best exhibit of sheep, but it was only a shade better than that made by Russell County.

Carleton County had by far the best exhibit of swine.

Glengarry County had the largest and best exhibit of dairy cattle.

North Renfrew had the best and largest exhibit of beef cattle.

Russell County has not only won the flag, but is well entitled to her victory.

While it is true that the exhibit of stock made by Mr. W. C. Edwards, M.P., of Rockland, undoubtedly helped the county exhibiton materially, yet the probabilities are that Russell County would have won the flag by a few points even if Mr. Edwards had not brought out his animals.

Russell County, it will be noticed, leads the next county by 42 points. It is a question whether the presence of Mr. Edwards' stock, high although its quality was, added that number of points to the total score allowed the county.

The reason Russell County won the flag was largely because every farmer in the county was eager to have the county head the list in the contest.

Fully two months before the fair, word was circulated all through the county that a determined effort was to be made to win the flag. A committee was appointed to visit farmers having good stock, to urge them to exhibit their animals. Men who had three or four good animals of the same breed were urged to bring them all out, even although they would not likely receive a prize for them, simply to show that the county had them. Many of the animals shown at the fair were driven over thirty miles. There was hardly a farmer in the county who had good stock who did not show it if at all able.

The result of all this enthusiasm was that the exhibit of stock was by far the largest ever made in the history of the county.

By many it was expected that Carleton County would have stood higher in the list than she does. The fact that she is only in fourth place is probably due to the fact that some of her leading farmers did not take the same interest in the contest as did the farmers of Russell County.

Where Carleton County fell behind was in her exhibit of horses and cattle. In these two departments she lost a great many points.

While it is true that a number of very fine horses were shown at the Richmond fair, the trouble was that several of the best teams belonged to North Lanrk and Russell Counties.

Had Mr. John G. Clark been able to show his Clydesdale horses, Ayrshire cattle, and Yorkshire pigs; R. Reid & Co., of Hintonburg, their Ayrshire cattle, and Mr. Thomas Good, of Richmond, his horses, Carleton County would have occupied a position in the list it could have been very proud of. Mr. Clark sent word to the directors that it was practically impossible for him to show his stock, as he had just returned with many of his animals from the Pan American Exposition.

Most of the other counties, as well as Carleton, could have made better exhibits had the directors been given better assistance, or had not unavoidable accidents happened.

Glengarry County was badly handicapped by a two days' heavy rain. This kept much of the best stock of the county away from the fair, including the fine Ayrshire herd of Mr. J. Lockie Wilson, Alexandria.

The North Renfrew Society lacked the exhibit of Mr. Archie Crozier's splendid Shorthorn cattle. Mr. Crozier was taken very sick the day before the fair.

THE STANDING OF THE COUNTIES.

Counties.	Horses.				Cattle.				Sheep.				Swine.				Grand Total.
	Number.	Condition.	Quality.	Total.	Number.	Condition.	Quality.	Total.	Number.	Condition.	Quality.	Total.	Number.	Condition.	Quality.	Total.	
	Pos. 40	Pos. 20	Pos. 40	Pos. 100	Pos. 40	Pos. 20	Pos. 40	Pos. 100	Pos. 40	Pos. 20	Pos. 40	Pos. 100	Pos. 40	Pos. 20	Pos. 40	Pos. 100	Pos. 400
Russell at Metcalfe.	40	18	35	93	35	15	35	85	36	17	33	86	32	17	34	83	347
N. Lanark at Almonte....	33	15	30	78	25	18	35	78	30	15	30	75	30	16	28	74	305
S. Renfrew at Renfrew...	30	13	28	71	20	15	30	65	21	16	24	61	28	17	33	78	275
Carleton at Richmond....	22	11	22	55	10	12	19	41	37	17	35	89	36	17	34	87	272
N. Renfrew at Beachburg.	27	12	22	61	27	18	32	77	25	16	23	64	14	15	12	41	248
S. Pontiac at Shawville ..	25	12	27	64	14	15	16	45	25	15	25	65	25	13	24	62	236
S. Lanark at Perth.....	20	12	20	52	17	15	17	49	20	15	20	55	22	14	22	58	214
Glengarry at Williamstown	25	12	21	58	20	15	30	65	18	15	25	58	5	15	12	32	213
Wright at Aylmer.....	17	12	21	50	12	10	10	32	15	15	10	40	16	14	20	50	172
N. Pontiac at Chapeau..	15	8	12	35	16	12	13	41	15	12	10	37	10	12	10	32	145

Neither the expert judges nor their secretary claim that the points allowed the various counties in the above statement are in exact proportion to the exhibits made by the different counties. They are, however, as nearly correct as the judges could make them.

The judges, before marking down the points allowed each county carefully compared notes, so that the statement would be as accurate as possible.

The judges were: Messrs. Geo. Gray, for horses; D. G. Hanmer, J. E. Brethour, Prof. J. H. Grisdale, G. H. Clark, W. A. Clemons, for cattle; D. G. Hanmer and John Campbell, for sheep, and J. E. Brethour, G. H. Clark and Prof. Grisdale, for swine.

A careful examination of the judges' statement shows plainly just where the exhibits of each county were weak.

All the counties, some however a great deal more than others, lost points through the animals shown not having been cleaned up and fitted for the exhibition. Most of the stock shown by several of the counties was simply in field condition.

Russell was strong in all its exhibits.

South Renfrew was weakest in sheep and cattle.

Carleton lacked badly in horses and cattle.

North Renfrew and Glengarry both fell away behind in their exhibits of swine.

South Pontiac was weakest in its exhibit of cattle.

Next year all the societies will know just where they lost points thi year, and what they will have to do to strengthen their fair. If another contest is held, it should prove much more interesting than the one held this year. Next year also Prescott, Stormont, Dundas, Leeds and Grenville Counties may be able to take part.

Results of the Athletic Contests in the Ottawa Valley.

A new and interesting feature this year of the various county fairs of the Ottawa Valley and District was the holding at each of five amateur athletic contests to decide the county championships. The events included a hundred yards dash, mile run, putting the sixteen-pound shot, running high jump and running broad jump. The winners of each event at each county fair became the champions of their county for the year. The competitors scoring the highest number of points in all the events won the all round championship of the county. These competitions were arranged by Mr. Cowan, of the Ottawa Valley Journal. Early in the summer the directors of the various societies were informed that if they would agree to hold the suggested contest at their fairs, the Journal would make all arrangements for a final big day of sports, to be held at Ottawa, to decide the championships of all the counties. Nine counties agreed to hold the contests, viz.: Glengarry, Prescott, Russell, Carleton, South Lanark, South Renfrew, North Renfrew, South Pontiac, and Wright. The rules of the Canadian Amateur Athletic Union governed all competitions. (A copy of these rules can be had by applying to Mr. Cowan.) With the idea of encouraging as many country and village boys as possible to compete, it was announced from the first that city athletes and professionals would not be allowed to take part. It was found impossible to prevent boys from the smaller towns entering, owing to the fact that many of the Agricultural

Societies receive valuable assistance from towns near, or in which their fairs are held. The contestants at each exhibition were limited to actual residents of the county. In this way it was impossible for a successful athlete of one county to visit and carry off prizes at any of the other county fairs.

The contests in all the counties proved most successful, the various events almost invariably being closely contested. In some of the counties, where the competitors were from different townships, and had their friends and admirers present to cheer them on, the excitement and interest in the competitions was intense. The knowledge that the winners of the different events became the county champions for a year, and that they were entitled to represent the county in the final contests at Ottawa, added greatly to the interest taken in the results.

The final championships were held at Ottawa on the sixteenth of last October. The Canada Atlantic, Ottawa & Northern, and Ottawa & New York Railways kindly supplied free transportation for the competing athletes to and from Ottawa. Next year each society will be expected to meet the expense of sending their athletes to the big meet. These final championships proved in every way as successful as had the county competitions. Champions were present from all the counties, and some really excellent work was done. That the prizes might be as widely distributed as possible, a rule was passed beforehand stipulating that no competitor would be allowed to carry off more than two prizes.

At a banquet held the evening of the contests, the enthusiasm was so great that a strong athletic association was formed for holding similar contests annually in future, in each of the previously named counties.

One of the most valuable features of these contests is the fact that they tend to bring the young men of each county into closer touch with the directors of their respective societies. It was found this year that the various lacrosse, football, baseball, and other athletic organizations in each county were willing and eager to give their assistance to help the directors make the contests a success. The fact that the competitions were for the county championships tended also to make the fairs better recognized as county institutions. Athletes from townships in no way connected with the county society attended the fair to compete in the contests, and brought friends with them who would not otherwise have been present.

The contests, also, at some of the exhibitions, took the place of more costly and less desirable attractions, such as feats of juggling and similar performances. Several of the directors of the South Pontiac Agricultural Society were so pleased with the competitions this year that they have announced their intention to advocate next season doing away with horse racing at the fair, and to still further develop the idea of these contests.

To ensure the carrying out of the sports in a manner satisfactory to both spectators and competitors, it was necessary that several important points be attended to by the directors or by a special committee. A space should be roped off, beforehand, in which the contests should be held. Only contestants and officials should be allowed to enter the ring. A person should be appointed to announce loudly to the spectators the various marks made by the competitors as they take part.

DISCUSSION.

Mr. George C. Creelman: The question is, Shall the horse races and the short-skirt dancers be allowed to control our fairs? Shall these things be allowed to remain as special attractions; and shall the hotel keepers be allowed to control them? Or shall the better thinking men and women among the agricultural class take the matter in hand, do the work them-

selves, and get the credit for it ? I think it has boiled itself down about to that. There are so many things that could be said upon this question that I feel I could talk all night on it. It comes close to every one of us who is interested in agricultural work. The dairymen say they are not treated fairly under the present system of managing fall fairs,—that, while the exhibits of butter, etc., are properly put up and manufactured by ex perts, the judge who makes the awards often does not understand his business, and consequently the result is entirely useless an an educator. The fruit men make similar complaints. They state that the means for display ing their fruit is often inadequate, and that there is no uniformity. Parties making these complaints write to Mr. Hodson, to Dr. Mills, to Mr. James, and to myself, regarding the present system. They write to anybody who, they think, will take the matter up and thresh it out. These complaints have come to us so often that I have arrived at the conclusion that we shall have to join hands and do something for the fall fairs before they pass forever out of sight. It is rather a delicate question for Mr. Hodson to take up, but he does not mind that, if he thinks that the ultimate result will be good. He does not mind telling us that we are annually spending $400,000 for nothing. When you come down to the letter of the law, he is calling us pretty hard names. But he does not get an audience like this before him every day. When he does, he takes the opportunity of telling us frankly that we are big fools to allow matters to continue as they are, when the methods he suggests would lead to the agricultural salvation of the fall shows.

The suggested reform is not only practical, but is being worked out at least by one association, and is declared a first-class success. The Norfolk County Fair at Simcoe has been conducted for years on the lines suggested. They recently invited me up there to see what was being done. They do not claim to have accomplished everything that is possible. I went up the evening before. I have often attended fall shows, and have had very good times with the boys; so I went up expecting something of the kind in this case. When I arrived, I was surprised to find a good many of my friends there from different parts of the Province, having a chat with the directors. I said, "What are you all doing here?" "Oh," they said, "we have been coming here for severel years; the Secretary of the Association has invited us here to judge the stock, etc. They have good stock to judge, and they gave us the privilege of judging it. The first time we came we judged it on its merits, and did the very best that could be done, and the result is that they have invited us back from year to year." I said: "I understand how that might be, but it is very unusual to find so many expert judges present at one exhibition." The reply was: "If you stay till to-morrow, you will find that it is an unusual exhibition."

I was very much pleased to find next day an absence of all those things that Mr. Hodson has declared to be so injurious. There was not a faki allowed inside the town. There was not a horse race on the grounds,—not even a suitable track for the purpose. The show was conducted on purely agricultural lines, and during the past ten years they have taken in at the gates an average of $1,300 a year; and it is practically a one-day show. The consequence is that they are able to pay liberal prizes, and attract good exhibits. Brantford, on the other hand, with its balloon ascensions, and all the other special attractions that Mr. Hodson has mentioned, went into debt, did not pay any prize money, and refused to return the entry fees because they had no money after paying for these attractions. They did not take in more than $500 in gate receipts, while Simcoe, without any special

attractions, took in the large sum I have stated, because the people came to see a clean exhibition. If you provide an educational exhibition, where everything is clean, and where the prize list is sufficiently large, the thing will work itself out.

A word as to how we can help shows that are now in the mud, and don't know how to help themselves. At the Port Hope show last year, one representative gentleman, Mr. Barlow Cumberland, offered five prizes, from ten dollars to one dollar, for the boys who could name the largest number of varieties of apples out of a miscellaneous lot. It was wonderful how this stirred up the boys in Durham County. More than 25 boys, aged from ten to sixteen years, entered the contest. Some of them named seventeen out of the eighteen varieties correctly. Don't you think that the sisters, and the elder brothers, and the fathers and mothers were interested in that exhibition ? Don't you think that if something were put on the program whereby everybody would have an opportunity of trying their skill, all would be interested in the exhibition, and come out and see it, and be proud of it ?

In the Muskoka District, they asked me to send them an expert judge of dairy cattle and dairy butter. I sent them Superintendent Hart, of the Eastern Dairy School. He not only judged, but gave the reasons for his awards. A lot of the women,—those who had been in the habit of saying "I can make just as good butter as my neighbor," gathered around him, and asked him to give his reasons for the awards he had made. He showed them the reasons—why one sample was superior to another—and got them interested, and educated them as to what good butter should really be like. In judging the dairy cattle the same thing occurred. He ordered some of the animals out of the ring. The owners came to him and said, "Why, we got a prize on that animal last year." So he had to go over the animal and explain her points. "Why," he said, "that animal is not paying for her keep."

Farmers are people who take in their information through the eye. A farmer does not often learn a thing unless he sees it. If you can point out the good and bad points in a certain animal, he understands you, and profits by it.

If we had a staff of judges such as Mr. Hodson has suggested, and if the time of holding the different fairs could be systematically arranged, the same as Farmers' Institute meetings are, not only could these judges attend the different fairs in succession, but a great saving would be effected in travelling expenses. This year, for instance, Mr. R. S. Stevenson was sent to Orillia to act as a judge. A week later, he was called upon to visit Elmvale, fifteen miles from Orillia, in the same capacity. Thus, he had to make two journeys of 150 miles each to judge at these two points. This sort of thing could be avoided under the system laid down.

Now go home and work up public opinion in favor of a change in the right direction. I believe every one of you will find your district ready for the change, and ready to work on a business basis. They will appreciate everything you will do for them. Take off your coats and offer your services to the fair committee, and tell them you know how the defects may be remedied, and you will soon accomplish more good to the community than through any other channel I know of.

Mr. H. B. Cowan, Ottawa : Last year, in my capacity as a newspaper man, I had occasion to visit nearly all the fairs in the Ottawa Valley and district. My observations led me to the conclusion that the fairs were suffering from three great defects. The first was the difficulty in securing expert

judges; the second, because they could not secure good attractions; and the third, because the farmers did not seem to take any particular pride in their fair. Apparently the directors were doing their best, but they did not seem to know how to surmount these difficulties. I discussed the matter with Mr. Hodson, and he suggested the idea of expert judges, and he promised that if I could get the fairs to agree he would supply the judges. Previous to this the directors would try to get men, but the men selected would not show up; and then they had to hurry around and get anyone they could to act. I was asked on one occasion to act as judge of butter. I said I could hardly tell butter from cheese. They said: "Never mind; you will get a good dinner anyway." The result of this kind of thing is, after the exhibitor has done his best, the judge awards the prize to an inferior article, either from ignorance or from some other reason.

The result of our efforts was that most of the counties between Ottawa and Kingston made application for these expert judges. The work of these men was a revelation to the farmers. Many of the farmers in that district did not know what a bacon hog was. Men who had been winning prizes for years had their animals thrown out altogether, and the judges explained fully the reason. That was the first time they had any real idea of what the bacon type of hog was. Next year nearly every fair in the district will have a prize for that type. The judges explained the reasons for their awards in all classes. When an opportunity occurred, they would give a little address on the beef type or the dairy type. They were also able to suggest improvements in the prize list, and in almost every case the directors have promised to accept their suggestions.

In the matter of attractions, the directors felt that they needed something to get the people's attention. This year we tried athletic contests—the mile run, the broad jump, the high jump, etc.—each for the county championship for the year. Three prizes in each contest were offered. These contests got the young men interested. The athletic associations, the football and the baseball clubs all came forward. These contests proved a success in every instance. In addition, we brought the county champions to Ottawa for a final field day. This gave the winners an opportunity to represent their county at Ottawa. In South Pontiac the directors next year will do away with horse racing, and adopt this idea.

Another idea was a prize to the county making the best exhibit of stock. The County of Russell won it, and for two months beforehand they canvassed the farmers to induce them to bring their animals out.

There is a strong feeling in the section that the fairs must be arranged in a circuit, and the majority of the directors are willing to allow the dates to be decided by a committee. This is a very encouraging state of affairs, because if this is once done, a great many other improvments will follow.

Mr. J. H. Grisdale, Ottawa: I was sent out on two or three occasions to take the place on the circuit of judges who were sick. I think the system is a great improvement. Wherever I went they warmly approved of the scheme. I think it is bound to extend over the whole Province, and eventually over the entire Dominion. In one county—Prescott—they were unable to get into the circuit on account of the date of their exhibition. I have been told that their fair was a failure this year. The counties that were on the list agreed that this year's fair was the most successful they had ever had, and they attributed this in almost every case to the expert judges, because the stock men knew they could depend on the judges knowing their business.

Mr. R. H. Knowles, Hespeler: I was much pleased with the remarks of Mr. Hodson in suggesting that prizes be offered to the boys and girls I

think it would be a good thing to offer prizes for the best essays on agricultural topics to the boys and girls of sixteen and under. This would develop their brains and tend to sound thinking. I think the time has arrived when the present system of judging will be tolerated no longer. We have suffered too much from it in the past, and experts, or nobody, should be the order in the future.

Mr. F. W. Hodson : There are many suggestions of this kind that could be made. The object I am aiming at is to set the people thinking—to get the boys and girls thinking on farm topics.

Mr. T. G. Raynor: I heartily approve of the suggestions that have been made. From my little experience of judging, I am certain that abuses exist, that these suggestions are calculated to correct. Exhibitors have sometimes suggested to me on the quiet that they would like a prize for a certain exhibit, and I am sure there are exhibitors who make a practice of going round to the local fairs and suggesting that certain judges be appointed, and then make an effort to bias the judges in their favor.

Mr. Thomas McMillan : I have considered for years that there is no question that demands the attention of the farmers to such an extent as the manner in which our exhibitions are conducted. In our own neighborhood, I have acted as a director for the local organization. I have seen nearly every director treat in an hotel after they were through with their meetings. These meetings were held in the hotel parlor. I mention this to give an idea of the manner in which many of the meetings are carried on. When it comes to the show in the fall, we find that the great attraction of the fair in our section is horse racing, and that the whole thing is really under hotel influence. Mr. Hodson's address should set every farmer thinking, and the thanks of this meeting are due to him for it; and I move that a vote of thanks be tendered him.

Mr. Glendinning : I have listened with much pleasure to the addresses this afternoon, especially to the remarks of Mr. Hodson and Mr. Creelman. I think they touched upon the main points at issue. We all know that our fairs are degenerating very much through the special attractions, and through horse racing, which is being controlled by the hotel keepers, who have a word to say in all these matters. I have much pleasure in seconding the vote of thanks proposed by Mr. McMillan.

Mr. Hodson: It has afforded me a great deal of hard work to get the matter for my address together, so that I might know just where I was on this question. I have studied it for several years. I could not talk, so long as I was Superintendent of Institutes, but I firmly believe that the Superintendent of Institutes ought to be Superintendent of Fairs, in the public interest, because the two things should be virtually one in each county. Under the scheme I have suggested, it will be necessary for every association to conform to the rules and regulations, if it is to receive its grant They must ask for expert judges, and they must have the dates of the fairs set, so that they can be held in consecutive order.

Mr. McMillan: Were the fairs in the Ottawa Valley two-day shows ?

Mr. Hodson : Some were for one day, and some for two days.

The professional exhibitor who is not a breeder is a very great nuisance. These men secure animals simply for show purposes, and exhibit them at a circuit of fairs. Some of them secure from $300 to $700 in prizes. They ought to be discouraged, as they are doing nothing whatever for the improvement of our live stock. A prize might be given, and a good prize, for animals bred inside the fair district. You might also offer prizes as well, for animals bred outside. We want breeders of live stock, not dealers, to exhibit.

MODEL PRIZE LISTS AND RULES AND REGULATIONS TO GOVERN FALL FAIRS.

According to instructions, the following circular was prepared and mailed to each officer and director of every Agricultural Society in Ontario. While some of the suggestions contained in this circular may not be adopted this year, it is hoped that some of the ideas may be used to advantage :—

TO THE OFFICERS AND DIRECTORS OF AGRICULTURAL SOCIETIES IN ONTARIO.

Gentlemen,—A committee of the Canadian Association of Fairs and Exhibitions was instructed to draft a model set of rules and regulations and a prize list for certain classes of exhibits, to be submitted to the officers and directors of all Fall Fair Boards operating under the Agricultural and Arts Act. This has been done with the counsel and assistance of committees of the Dominion Horse, Cattle, Sheep and Swine Breeders' Associations, the Poultry Associations and the Ontario Fruit Growers' Association.

You are now invited and requested to examine carefully these Rules and Regulations, and these Prize Lists, and to make candid criticism on the blank spaces reserved for the purpose. Please do this at once, and then hand or mail your copy to the Secretary of your own Agricultural Society. Your Secretary will on April 15th mail them to this office. When all are in they will be submitted to the Executive Committee of the Fairs Association for final revision.

If any of the suggestions contained herein appear to you as an improvement on your last year's list you might make a note of them and present the same to your Board when you meet to revise your Prize List for 1902. Yours very truly,

G. C. CREELMAN, Parliament Buildings, Toronto, Ont.

Toronto, March, 1902.

RULES AND REGULATIONS GOVERNING FALL FAIRS AND EXHIBITIONS.

1. All competition for the following prizes will be open to the world, except when otherwise specified in the prize list.

2. The annual membership fee if paid on or before the 31st day of August, will be $1.00; after that date $1.50 will be charged. Each exhibitor must purchase a member's ticket before making entries, a registered firm being regarded as one exhibitor. Only one member of the firm will be admitted to the grounds on the ticket that entitles the firm to compete, and in no case will the ticket be transferable. Directors must make returns of membership fees and all moneys collected by them, to the Secretary on September 1st of each and every year.

3. Each membership ticket, if paid at least one week previous to the Fair, will entitle the member to ten (10) entries, and for all entries over that number a fee of ten (10) cents for each entry will be charged.

4. All members desirous of entering stock, etc., for competition should make application to the Secretary at least one week previous to the first day of the Show. The Secretary will be at his office between 9 a.m. and 5 p.m.

Members not having made their entries at the time stated in Clause 4, may make entries up to and including the day previous to the Fair, but will be entitled to only six entries on their membership ticket, and will be charged 20 cents for each entry over that number. If entry fees as above are not enclosed, entries will be refused.

5. Every animal, fowl, article, product and chattel exhibited must be the actual bona fide property and belong absolutely to the person or persons entering or exhibiting the same. In the case of every article, product or chattel exhibited, other than live stock, the said article, product or chattel must be of the actual production, growth or manufacture, as the case may be, of the person or persons owning and exhibiting the same.

6. In the event of doubt as to any exhibitor having complied strictly with the provisions of Rule 5, or in case of notice that any exhibitor has not strictly complied with the provisions of said Rule 5, the committee consisting of the President, first Vice-President and General Superintendent, or any two of them, shall be obliged to cause any exhibitor with reference to whom such doubt exists, or with reference to whom any such notice has been given, to make a statutory declaration of a compliance with the terms of said Rule 5.

7. Upon the discovery of any fraud, deception or dishonest practice, either in the preparation of, or by any misrepresentation concerning any article or property exhibited which may have affected or which was intended to affect, or the discovery of any de-

ception as to the actual ownership of the article or property exhibited, or as to the person growing, producing or manufacturing any such article or property or upon the discovery of any fraud, deception or dishonest practice by the person or persons exhibiting, or by any person upon his or her behalf or in his or her interest, the Board of Directors shall withhold the payment of the prize awarded as well as any and all other prizes awarded to said exhibitor or awarded to any person or persons shown to have been in collusion with the exhibitor or to have acted improperly on his or her behalf and shall prohibit any such person or persons above referred to from exhibiting in any class for one year or more, and may also publish the names of such person or persons if deemed expedient.

8. Grain, seeds, roots and vegetables, horticultural products, plants, flowers, dairy products, agricultural implements, manufacturers' exhibits, fine arts, domestic manufacturers and ladies' work shall be on exhibition each day of the fair. In a two-day fair the poultry shall be on exhibition both days. When the fair is held for three days poultry shall be exhibited the last two days. Horses, cattle, sheep and pigs shall be exhibited the last day of the fair.

9. All articles intended for competition must be entered in strict accordance with the Prize List, in order to secure a prize, and the exact number or quantity stated in Prize List being strictly adhered to. Any entry disqualified under this rule shall be marked with a card of disqualification by the Superintendent of the department.

10. Cattle, sheep and pigs must be on the grounds and placed by 10 o'clock a.m. and no animal shall be allowed to compete in more than one class or section, except in cases of specials, or when shown in pens or herds.

11. All horses and cattle must be on the grounds and be secured by the head, and pigs and sheep confined in pens, and owners shall comply with such minor regulations for their safe custody and fair and complete exhibition as the Committee of Management may suggest on the day of the show. All colts, except foals, must be exhibited by the halter.

12. Persons exhibiting pure bred stock must give their names and numbers to the Secretary at the time of making entries. For young animals the name of the animal and names of sire and dam may be accepted for those under one year. Certificates of registration must be produced for all animals when they are shown. In all breeding classes of live stock male animals shown must be pure bred. No others will draw prize money.

13. Ages of beef cattle, sheep and swine shall be computed to the 1st of September, dairy cattle to the 1st of August.

14. Miscellaneous manufacturers, carriages, etc., must be exhibited by the manufacturer or agent. Any person making entries as agent for more than one producer must pay the regular subscription for each of such parties, except in agricultural implements and musical implements, there being no premium awarded, an authorized agent may exhibit for the firm he represents.

15. Exhibitors of horses, cattle and sheep must bring them forward when called for by the judges from the judging ring, otherwise they will not be considered.

16. No article or animal deemed unworthy shall be awarded a premium; but no premium shall be withheld merely because there is no competition. The judge may award any grade of premium according to the merits of the animal or article.

17. No person shall be allowed to enter for exhibition more than one specimen in any section of a class unless the additional article be of a distant named variety or pattern from the first. This rule shall not apply to animals, but to all kinds of grain, vegetable products, fruit, manufactured articles, etc., in which each additional specimen would necessarily be precisely similar to the first.

18. No person shall be a judge of any article or in any class in which he is interested as an exhibitor, agent or employee of an exhibitor, or otherwise.

19. No person or persons shall be allowed to interfere with the judges while engaged in making their award, either by conversation or any other pretence, under penalty of forfeiting all prizes to which they might otherwise be entitled; and will be promptly excluded from competition. Judges or officers are particularly requested to report any breach of this rule to the Executive Committee of the Exhibition, who shall be the sole judges of whether or not the parties complained of are guilty.

20. Any person who shall attempt to interfere with the judges while in the discharge of their duties, or shall on the premises of the Association use any contemptuous or abusive language to any judge or officer of the Association, shall forfeit his right to any premiums to which he might be entitled, and shall be excluded from exhibiting for one year thereafter.

21. The decision of the judge or judges shall be final as to awarding of prizes, and no appeal shall be considered except in case of protest. All protests shall be made in writing and shall be so delivered within one hour of the award, at the Secretary's office.

22. Any exhibitor or interested person making such protest will be required to deposit the sum of $2.00 and if said protest is not sustained the said amount shall be retained by the Association. The President, Vice-President and General Superintendent shall constitute a committee to determine such protests.

23. No person or persons shall be allowed to display any badges or prize tickets secured at any other fair until such time as the awards have been made.

24. Grain must be the growth of the current year. Grass seeds may be the product of the current or previous year.

25. No animal or article exhibited shall be removed from the grounds until after four (4) o'clock in the afternoon of the last day of the exhibition.

26. No person shall be allowed to drive or ride horses on the show grounds faster than a walk, except within the exhibition ring, under penalty of immediate removal from the exhibition grounds.

27. Exhibitors whose tickets have not been delivered theretofor will find entry cards and member's ticket ready for them at the office of the Secretary on the Fair Grounds on the first day of the Fair.

28. Diligence will be used by the officers of the society to ensure the safety of articles sent to the exhibition and to prevent injury or loss to animals, but the owners themselves must take the risk of exhibiting, and should any article be accidentally injured, lost or stolen, the directors will render all the assistance in their power towards its recovery, but will not make any payment of the value thereof, or be otherwise liable.

29. The entry tickets upon animals or articles intended for exhibition will give free admission to the person bringing such animals or articles to the fair grounds.

30. Notice is hereby given that the officers of the Association or Society may by their Rules and Regulations prohibit and prevent theatrical, circus and montebank performances, exhibitions or shows, and no permits will be granted for the sale of cheap jewellery or other articles of a similar nature, and no games of chance or gambling will be permitted on the grounds or within 300 yards thereof. No peddling shall be allowed on the fair grounds. The Association may also regulate or prevent the huckstering or trafficking in fruits, goods, wares or merchandise on exhibition grounds or within 300 yards thereof; and any person, who after due notice of such rules and regulations, violates the same, shall be liable to be removed by the officers, policemen or constables of the Association or Society, and the clauses 27 and 28 of the "Agricultural and Arts Act, 1895" relating thereto shall be enforced.

Special Prizes.—Donors of special prizes are requested to pay the same only to the Treasurer of the Society, who will pay over the same to those entitled thereto. Winners of such prizes when the article is to be retained, must deliver the same to the person giving the prize.

In Specials, all weights, etc., must be stated. In case of light weight prizes must be retained, and donors are requested not to accept articles.

In all classes except stock, when the article named in Special is the same as that mentioned in the Society's prize list, the exhibit in each section must be separate and distinct. In no case will the same article be allowed to compete in two different sections.

Entries.—Exhibitors are particularly requested to make their entries early; and time and money will be saved by sending entries by mail the week preceding the Exhibition. See sections 3 and 4, Rules and Regulations.

Exhibitors will please be careful to state the class and section in which they intend each different article to compete, and sign their names.

Premiums.—The Treasurer will be prepared to commence paying the premiums within two weeks of the close of the Show, and persons having prizes awarded to them will apply personally or send written orders. All premiums not applied for previous to the 1st of December, shall be forfeited.

MODEL PRIZE LIST.

HORSES.

If thought desirable, classes for pure bred stallions may be added, but, as a rule, they are not in good show condition at the time of year when fall fairs are held.

Class I.—Heavy Draught Horses (Matured Animals should be 1,400 Pounds or Upward.)

1. Dry mare.
2. Brood mare, foal at foot.
3. Colt or filly foal.
4. Gelding or filly one year old and under two.
5. Gelding or filly two years old and under three.
6. Gelding or filly three years old and under four.
7. Cart horse or mare in harness.
8. Span heavy draught horses.
9. Six animals the get of one horse.

Class 2.—Agricultural Horses (Under 1,400 lbs.).

1. Dry mare.
2. Brood mare, foal at foot.
3. Colt or filly foal.
4. Gelding or filly one year old and under two.
5. Gelding or filly two years old and under three.
6. Gelding or filly two years old and under four.
7. Single horse in harness.
8. Span agricultural horses.

Class 3.—Carriage and Roadster Horses.

1. Dry mare.
2. Brood mare, foal at foot. (Carriage and brood mares not to compete against each other.)
3. Colt or filly foal.
4. Gelding or filly one year old and under two.
5. Gelding or filly two years old and under three.
6. Gelding or filly three years old and under four.
7. Single carriage horse in harness. (Judged for value, appearance and action.)
8. Pair carriage horses under 15¾ hands. (Judged for value, appearance and action.)
9. Pair carriage horses, 15 3-4 and over. (Judged for value, appearance and action.)
10. Single roadster in harness. (Judged for value, appearance and action.)
11. Pair roadsters in harness. (Judged for value, appearance and action.)
12. Driving pony under 14-1, driven by boy or girl under 16 years.

Class 4.—Saddle Horses.

1. Gelding or mare under saddle, 15½ hands and over.
2. Gelding or mare under saddle, under 15½ hands.
3. Gelding or mare under saddle, pony, 14-1 or under.
4. Girl's or boy's saddle pony, ridden by girl or boy under 16 years.
5. Hunter to go over jumps not less than 3½ feet.
6. Artillery—Horses suitable for artillery purposes, 15 to 16 hands; weight, 1,100 to 1,400 pounds; strong, active, blocky horses.
7. Cavalry.—Horses suitable for cavalry, 15-1 to 15-3 hands; 1,000 to 1,200 pounds; able to carry 210 pounds; to be ridden over jump of 3½ feet high.
8. Mounted Infantry.—Horses suitable for mounted infantry; 14 to 15-1 hands; weight, 900 pounds and upwards; strong, active horses, to go over 3½ foot jumps.

CATTLE.

Beef Breeds for Larger Fairs.

Class 1.—Shorthorns.

Certificates of registration in recognized Herd Book.

1. Bull, three years or over.
2. Bull, 2 years and under three.
3. Bull, one year and under two.
4. Bull under one year.
5. Cow, four years or over.
6. Cow, three years and under four.
7. Heifer, two years and under three.
8. Heifer, one year and under two.
9. Heifer under one year.
10. Herd, one male and three females over one year; females bred by exhibitor.

Class 2.—Herefords.

Certificates of registration in recognized Herd Book.

1. Bull, three years and over.
2. Bull, two years old and under three.
3. Bull, one year old and under two.
4. Bull, under one year.
5. Cow, three years and over.
6. Heifer, two years and under three.
7. Heifer, one year and under two.
8. Heifer under one year.
9. Herd, one male and three females, over one year; female to be bred by exhibitor.

Class 3.—Galloways.

Certificate of registration in recognized Herd Book.

1. Bull, one year or over.
2. Bull, under one year.
3. Cow, two years or over.
4. Herd, male and three females, over one year; females bred by exhibitor.

Class 4.—Aberdeen Angus.

Certificate of registration in Dominion Polled Angus Herd Book, Polled Angus Herd Book of Aberdeen Angus Cattle, or the American Aberdeen Angus Herd Book, will be required.

1. Bull, one year or over.
2. Bull under one year.
3. Cow, two years or over.
4. Herd, male and three females over one year, females bred by exhibitor.

Class 5.—Grades.

1. Cow, four years or over
2. Cow, three years and under four.
3. Heifer, two years and under three.
4. Heifer, one year and under two.
5. Heifer or steer calf, raised on cow.
6. Heifer or steer calf, raised by hand.
7. Steer, two years and under three.
8. Steer, one year and under two.
9. Fat export steer or heifer, three years.

10. Best three fat cattle.

Cattle: Dairy Breeds for Larger Fairs.

Class 6.—Ayrshires.

Certificates of registration in recognized Herd Book.

1. Bull, three years or over.
2. Bull, one year and under three.
3. Bull calf, under one year.
4. Cow, four years and over.
5. Cow, three years and under four.
6. Heifer, two years and under three.
7. Heifer, one year and under two.
8. Heifer, under one year.
9. Herd, three females over one year, and one male; females bred by exhibitor.

Class 7.—Holstein-Friesians.

Certificate of registration in recognized Herd Book.

1. Bull, three years or over.
2. Bull, one year and under three.
3. Cow, four years and over.
4. Cow, three years and under four.
5. Heifer, two years and under three.
6. Heifer, one year and under two.
7. Herd, three females over one year, and one male; females bred by exhibitor.

Class 8.—Other Breeds.

Certificate of registration in recognized Herd Book.

1. Bull, three years and over.
2. Bull, one year and under three.
3. Cow, four years and over.
4. Cow, three years and under four.
5. Heifer, two years and under three.
6. Heifer, one year and under two.
7. Herd, three females over one year and one male; females bred by exhibitor.

Class 9.—Grade Dairy Cattle.

1. Cow, three years or over.
2. Heifer, under three years.

Class 10.—Milk and Butter Fat Tests.

A special prize may be given for the best 48-hour milk and butter test made by any cow on exhibition.

Conditions: Rations fed to the competing cows will not be considered. Cows will stand in open stalls, in full view of the public. Competition open to all cows.

Competing cows to be properly milked at 6 o'clock p.m. on the day prior to the test. All milking to take place at the hours of 6 a.m. and 6 p.m., and all under the direction of the officer in charge.

Prizes will not be awarded unless there are three or more competitors.

Cattle: Beef Breeds for Smaller Fairs.

Class 1.—Shorthorns.

Certificate of registration in recognized Herd Book.

1. Bull, three years and over.
2. Bull, two years and under three.
3. Bull, one year and under two.
4. Bull calf, under one year.
5. Cow, three years and over.
6. Heifer, two years and under three.
7. Heifer, one year and under two.
8. Heifer, under one year.
9. Herd, three females over one year and one male; females bred by exhibitor.

Class 2.—Other Breeds. (Shorthorns barred.)

Certificate of registration in recognized Herd Book.

1. Bull, three years or over.
2. Bull, two years and under three.
3. Bull, one year and under two.
4. Bull calf, under one year.
5. Cow, three years and over.
6. Heifer, two years and under three.
7. Heifer, one year and under two.
8. Heifer, under one year.
9. Herd, three females over one year, and one male; females bred by exhibitor.

Class 3.—Grades.

1. Cow, four years or over.
2. Cow, three years and under four.
3. Heifer, two years and under three.
4. Heifer, one year and under two.
5. Calf, steer or heifer, raised on the dam.
6. Calf, steer or heifer, raised by hand.
7. Fat steer, three years or over.
8. Steer, two years and under three.
9. Steer, one year and under two.
10. Herd, three females any age, bred by exhibitor.

Cattle: Dairy Breeds for Smaller Fairs.

Class 4.—Pure Breds.

Certificate of registration in recognized Herd Book.

1. Bull, three years and over.
2. Bull, two years and under three.
3. Bull, one year and under two.
4. Bull, under one year.
5. Heifer, two years and under three.
6. Heifer, one year and under two.
7. Heifer, under one year.
8. Herd, one male and three females over one year; females bred by exhibitor.

Class 5.—Grades.

1. Cow, three years and over.
2. Heifer, under three years.

SHEEP.

Fair Boards should select from the following named breeds such as are most popular or best suited to the conditions of the county. Liberal prizes should then be offered for those breeds, and the others left off the prize list entirely :—

Cotswolds, Leicesters, Lincolns, Shropshires, Oxfords, Hampshires, Southdowns, Dorset Horns and Merinos.

Pure Breds.

1. Ram, two shears and over.
2. Shearling ram.
3. Ram lamb.
4. Ewe, two shears and under three.
5. Shearling ewe.
6. Ewe lamb.
7. Pen—Ram lamb and three ewes, bred by exhibitor.
8. Pen—Ram (any age), two ewes, one year old and under three, and two ewe lambs ; females bred and owned by exhibitor.
9. Pen—Three wethers, one year and under two.
10. Pen, three wether lambs.

Grade Class.

1. Ewe, two shears and under three.
2. Shearling ewe.
3. Ewe lamb.
4. Pen—three wethers, one year and under two.
5. Pen three wether lambs.

Smaller fairs should follow this classification as far as their funds will allow.

SWINE.

Prize List for Larger Fairs.

Class for Yorkshires, Tamworths, Berkshires, and any other pure breed.

1. Boar, two years and over.
2. Boar, one year and under two.
3. Boar, six months and under twelve.
4. Boar, under six months.
5. Sow, two years and over.
6. Sow, one year and under two.
7. Sow, six months and under twelve.
8. Sow, under six months.
9. Four pigs, under six months, the get of one boar, produce bred by exhibitor.
10. Four pigs, under six months, bred by exhibitor, and produce of one sow.
11. Boar and two sows, any age.
12. Championship—Best registered boar, any age or breed, best calculated to produce pigs of the bacon type.
13. Championship—Best registered sow, any age or breed, best calculated to produce pigs of the bacon type.
14. Best bacon pig, barrow or sow.
15. Pen of three bacon pigs, barrows or sows, all grades or all of one breed.

Swine: Prize List for Smaller Fairs.

1. Boar, one year and over.
2. Boar, six months and under twelve.
3. Boar, under six months.
4. Sow, one year and over.
5. Sow, six months and under twelve.
6. Sow, under six months.
7. Boar, any age.
8. Sow, any age.
9. Four pigs, under six months, the offspring of one boar, bred by exhibitor.
10. Four pigs, under six months, bred by exhibitor, the produce of one sow.
11. Best three bacon pigs, barrows or sows.

All ages to be calculated to the 1st of September.

Bacon Hogs.

Entries in this class must be bred by exhibitor. They are not eligible to compete in any other class. Hogs must weigh not more than 220 pounds, and not less than 170 pounds each. These hogs will be judged with special reference to length, evenness of flesh in the back, even depth of side, well-proportioned ham, moderately light head and shoulders.

POULTRY.

For Larger Fairs.

A premium of $1.00 for first prize and 50 cents for second prize will be awarded for each pair of old birds and each pair of young birds, of each variety named in the following prize list; also a very highly commended card as a third prize.

Society will feed and water all stock and supply all coops except for pigeons and rabbits.

Premiums will be awarded in the following order :—

1. Pair Brahmas.
2. " Cochins.
3. " Langshans.
4. " Game, Indian.
5. " Game, any other variety.
6. " Hamburgs.
7. " Leghorns, S. C. White.
8. " Leghorns, any other variety.
9. " Minorcas.
10. " Spanish.
11. " Plymouth Rocks, Barred.
12. " Plymouth Rocks, White.
13. " Plymouth Rocks, Buff.
14. " Javas.
15. " Wyandottes, White.
16. " Wyandottes, any other variety.
17. " Houdans.
18. " Dorkings.
19. " Orpingtons.
20. " Polands.
21. " Andalusians.

22. Any other variety of poultry (not Bantams.)
23. Pair Bantams, Game.
24. " Bantams, any other variety.
25. " Turkeys, Bronze.
26. Turkeys, any other variety.
27. " Geese, Toulouse.
28. " Geese, any other standard variety.
29. " Ducks, White.
30. " Ducks, Colored.
31. Pigeons, collection of at least 6 varieties.
32. Pair rabbits.
33. " Belgian Hares.
34. " Guinea Fowls.

Live Table Poultry.

The specimens in this class will be judged by the British market standard. The breast of the chicken is required to be as broad and plump as possible, the flesh white in color, the bones of small size, and the offal (head, legs, etc.) very light. The live weight of the chicken should be under five and one-half pounds.

Exhibitors of cross-bred chickens must state the breeds of sire and dam.

1. Wyandottes, White, pair of cockerels.
2. " A.O.V., pair of cockerels.
3. Plymouth Rocks, Barred, pair of cockerels.
4. Orpingtons, Buff, pair of cockerels.
5. Dorkings, Silver Grey, pair of cockerels.
6. First cross from any other breeds, pair of cockerels.
7. Best six cockerels for export.

Poultry: For Smaller Fairs.

A premium of 50 cents for first prize and 25 cents for second prize will be paid for each pair of old and each pair of young birds of the different varieties mentioned in the following list; also a very highly commended card as a third prize.

Society to feed and water all stock, and supply all coops.

Premiums to be awarded on the following varieties :—

1. Pair Brahmas.
2. " Cochins.
3. " Langshans.
4. " Dorkings.
5. " Plymouth Rock, Barred.
6. " Plymouth Rock, any other standard kind.
7. " Wyandottes, White.
8. " Wyandottes, any other standard kind.
9. " Andalusians.
10. " Minorcas.
11. " Leghorns.
12. " Game.
13. " Hamburgs.
14. " Orpingtons.
15. " Common fowl, cockerels.
16. Pair A.O.S.V. Fowls.
17. " Turkeys, Bronze.
18. " Turkeys, A.O.V.
19. " Bantams.
20. " Geese, Toulouse.
21. " Geese, Emden or China.
22. " Geese, A.O.V.
23. " Ducks, Rouen or Cayuga.
24. " Ducks, Pekin or Aylesbury.
25. " A.O.V.
26. Best six cockerels for export, to be shown alive.

The specimens in this class will be judged by the British market standard. The breast of the chicken is required to be as broad and plump as possible, the flesh white in color, the bones of small size, and the offal (head, legs, etc.) very light. The live weight of the chicken should be under five and one-half pounds.

FRUIT.

This is a preliminary list, offered as a basis for the preparation of a fruit prize list for township and county fall fairs in Ontario. Criticism is cordially invited.

Class 1.—Apples. Five specimens of each variety.

A. Commercial Varieties—For Southern Sections.

1. Baldwin.
2. Ben Davis.
3. Blenheim.
4. Cranberry.
5. Duchess.
6. Greening.
7. Gravenstein.
8. Hubbardston.
9. King.
10. Ontario.
11. Spy.
12. Wealthy.
13. Any other named variety.
14. Best collection of 5 varieties for export.

B. Domestic Varieties—For Southern Sections.

1. Chenango.
2. Duchess.
3. Fameuse.
4. Greening.
5. Gravenstein.
6. Jonathan.
7. King.
8. Primate.
9. Ribston.
10. Swasie.
11. Spy.
12. Wealthy.
13. Any other named variety.
14. Seedling variety.
15. Collection 5 best varieties for dessert.

16. Collection 5 best varieties for cooking.

C.—Commercial and Domestic Varieties.

For Northern Sections.

1. Alexander.
2. Fameuse.
3. Duchess.
4. Golden Russett.
5. Hibernal.
6. Longfield.
7. McIntosh.
8. Scott's Winter.
9. St. Lawrence.
10. Transparent.
11. Wealthy.
12. Wolf River.
13. Any other named variety.
14. Seedling variety.
15. Collection of 5 best varieties for export.
16. Collection of 5 best varieties for dessert.
17. Collection of 5 best varieties for cooking.

D. Crab Apples. For Northern or Southern Sections.

(12 specimens of each variety.)

1. Hyslop.
2. Transcendent.
3. Whitney.
4. Any other named variety.

Class 2.—Grapes(Three bunches of each variety).

For Southern Sections.

1. Agawam.
2. Brighton.
3. Campbell.
4. Concord.
5. Delaware.
6. Diamond.
7. Lindley.
8. Moore.
9. Niagara.
10. Vergennes.
11. Wilder.
12. Worden.
13. Any other variety.
14. Best collection 5 seedling varieties.

For Northern Sections.

1. Campbell.
2. Lindley.
3. Lady.
4. Moore's Early.
5. Moyer.
6. Worden.
7. Any other named variety.
8. Best collection.

Class 3.--Peaches (Five specimens of each variety).

1. Alexander.
2. Champion.
3. Early Crawford.
4. Elberta.
5. Garfield.
6. Ingold's Mammoth.
7. Old Mixon.
8. Salway.
9. Smock.
10. Steven's Rareripe.
11. St. John.
12. Triumph.
13. Any other white flesh variety.
14. Any other yellow flesh variety.
15. Seedling variety.
16. Best collection of 5 varieties.

Class 4.—Pears (Five specimens of each variety).

A. Commercial Varieties—For Southern Sections.

1. Anjou.
2. Bartlett.
3. Bosc.
4. Clairgeau.
5. Clapp.
6. Duchess.
7. Dempsey.
8. Giffard.
9. Goodale.
10. Howell.
11. Keiffer.
12. Louise.
13. Any other named variety.
14. Best collection of 5 Commercial varieties.

B. Domestic Varieties—For Southern Sections.

1. Anjou.
2. Bartlett.
3. Bosc
4. Clapp.
5. Duchess.
6. Flemish Beauty.
7. Lawrence.
8. Marguerite.
9. Rosteizer.
10. Seckel.
11. Sheldon.
12. Wilder.
13. Any other named variety.
14. Seedling variety.
15. Best collection of 5 domestic varieties.

For Northern Sections.

1. Anjou.
2. Clapp.
3. Flemish Beauty.

Class 5.—Plums (Twelve specimens of each variety).

A. European Plums

1. Bradshaw.
2. German Prune.
3. Glass.
4. Coe.

5. Gucii.
6. Lombard.
7. Purple Egg.
8. Pond.
9. Reine Claude.
10. Smith's Orleans.
11. Washington.
12. Yellow Egg.
13. Any other named yellow variety.
14. Any other named dark variety.
15. Seedling variety.
16. Best collection of 5 varieties.

B. Japan Plums.

1. Abundance.
2. Burbank.
3. Red June.
4. Any other named variety.
5. Best collection of 3 varieties.

C. American Plums

1. Aitkin.
2. American Eagle.
3. Bixby.
4. Cheney.
5. City.
6. Gaylord.
7. Hawkeye.
8. De Soto.
9. New Ulm.
10. Silas Wilson.
11. Wolf.
12. Wyant.
13. Any other named variety.
14. Best Seedling variety.
15. Best collection of 5 varieties.

Class 6.—Quinces.

1. Orange.
2. Any other variety.

RULES GOVERNING THE DEPARTMENT OF FARM SEEDS, POTATOES, FIELD ROOTS AND FODDER CROPS.

Prepared by C. A. Zavitz, O. A. C., Guelph.

1. The following entrance fee will be charged and must accompany each application for entry: For each entry, 50 cents. An entry fee will be charged for each special.

2. Exhibits must be sent to the show room, addressed to Superintendent of show, in whose care they will remain during the exhibition.

3. All exhibits must be received not later than———

4. The arranging of the exhibits will be under the direction of the Board.

5. The Committee in charge of this department reserve the right to reject any entry.

6. No exhibit shall be removed until the close of the exhibition.

7. All seed shown must have been grown and matured by the exhibitor within one year previous to the date on which the exhibition is opened, and each variety must have a label securely attached in a prominent place, on which the correct name of the variety is plainly written. A statutory declaration certifying that this rule has been complied with may be required from each exhibitor in this department.

8. Each exhibit of wheat, oats, barley, rye and buckwheat shall consist of one bushel of seed, together with a neatly bound sheaf of grain of the same variety and strain of seed, which shall consist of 500 stalks, showing the full length of straw and heads of grain.

9. Each exhibit of peas and beans shall consist of one bushel of seed, together with twenty-five plants of the same variety and strain of seed, showing the full length of straw and pods.

10. Each exhibit of flax and millet shall consist of one-half bushel of seed, together with fifty plants of the same variety and strain of seed, showing full length of straw.

11. Each exhibit of vetches, clover and alfalfa shall consist of one-half bushel of seed, together with twenty plants of each variety.

12. Each exhibit of grass shall consist of one-half bushel of seed, together with one hundred plants of each variety.

13. Each exhibit of corn shall consist of thirty pounds of matured ears, together with twelve matured stalks of same variety and strain of seed, showing full length of stalk with ears attached.

14. Each exhibit of Canadian-grown seeds of turnips, mangels, sugar beets and carrots shall consist of five pounds of seed of each variety, together with six roots of the same variety and from the same strain of seed.

15. Each exhibit of Canadian-grown seed of pasture rape shall consist of five pounds of seed, together with six plants of the same variety and from the same strain of seed.

16. Each exhibit of potatoes shall consist of one bushel of tubers of each variety; and each collection of potatoes shall consist of one peck of tubers of each of six correctly-named varieties.

17. Each exhibit of Swedish turnips, fall turnips, mangels and sugar beets shall consist of six roots, and of carrots of twelve roots of each variety. Each collection of field roots shall consist of twelve varieties, two specimens of each variety.

18. Each exhibit of silo corn, sugar cane, Kaffir corn, millo maize, broom corn, etc., shall consist of twelve complete stalks of each variety, with seed attached.

19. Though not compulsory, the Board recommends that to each exhibit of clover, alfalfa and grass seed a certificate of analysis from some recognized botanist be attached.

20. After the prizes have been awarded, any exhibitor may place a placard on the seed exhibited, giving his name, address, the pedigree of the seed, the amount of seed for sale, and the price per bushel.

Farm Seeds.

One bushel—

Fall Wheat, white.
Fall Wheat, red or amber.
Spring Wheat, white.
Spring Wheat, red or amber.
Spring Wheat, macaroni (such as Wild Goose).
Oats, white.
Oats, black.
Barley, six-rowed.
Barley, two-rowed.
Barley, hulless.
Pease, small white field.
Pease, large white field.
Pease, colored.
Pease, grass.

Collection of Seed Grain,—Fall Wheat, Spring Wheat, Oats, Barley and Peas; one peck of seed and one characteristic plant of each variety.

One bushel—

Beans, small field.
Beans, large field.
Beans, Soy.
Beans, horse.
Cow Peas.
Rye.
Buckwheat.

One-half bushel—

Flax.
Millet, varieties, with a panicle or spreading head.
Millet, or Hungarian Grass, with a fox-tail head.
Vetches, common.
Vetches, hairy.

Thirty pounds—

Corn, flint, white.
Corn, flint, colored.
Corn, dent, white.
Corn, dent, colored.

Collection of Corn, one peck shelled grain, six ears, and one characteristic plant of each variety.

One-half bushel—

Clover Seed, common red.
Clover Seed, Mammoth red.
Clover Seed, Alsike.
Lucerne or Alfalfa Seed.

Collection of clover seed, one gallon of seed and one characteristic plant of each variety.

One-half bushel—

Grass Seed, timothy.
Grass Seed, orchard.
Grass Seed, meadow fescue or tall fescue.
Grass Seed, Awnless Brome.

Collection of Grass Seed, one gallon of seed, and one characteristic plant of each variety.

Five pounds—

Turnip Seed, Swede or fall.
Mangel Wurzel Seed.
Sugar Beet Seed.
Carrot Seed.
Rape Seed, Dwarf Essex variety.

Collection of root seed, one gallon of seed, and one characteristic plant or root of each variety.

Potatoes.

1. Rose Type, including Early or Late Rose, Early Thoroughbred, Early Northern, Early Fortune, Early Pride, Early Maine, Van Orman's Earliest, Prize-Taker, Everett, Bovee, etc.
2. Hebron Type, including Beauty of Hebron, Early Puritan, White Elephant, New Queen, Burpee's E. E., etc.
3. Long White Type, including Empire State, White Star, American Wonder, Great Divide, Pearl of Savoy, etc.
4. Round White Type, including Rural New Yorker, Carman No. 3, Sir Walter Raleigh, Minister, Carman No. 1, Uncle Sam, etc.
5. Best New Variety, not heretofore exhibited.
6. Collection, six properly named varieties, including early, medium and late sorts, 1 peck each.

Field Roots.

6 Turnips, Swedish.
6 Turnips, fall.
6 Mangel Wurzels, long or intermediate.
6 Mangel Wurzels, globe or tankard.
6 Sugar Beets.
12 Carrots.

Collection of field roots, 12 varieties, 3 specimens of each variety.

Miscellaneous Farm Crops.

12 Stalks Corn, most suitable for the silo.
12 Stalks Sorghum—Sugar Cane; Kaffir

Corn, Millo Maize, etc.

12 Stalks Broom Corn.
1 Pumpkin or Squash.

PLANTS AND FLOWERS.

Prepared by Prof. H. L. Hutt, O.A.C., Guelph.

Greenhouse Plants (open to Professionals and Amateurs).

1. Abutilons, 6 plants, 3 varieties.
2. Begonias, flowering, 6 varieties.
3. Begonias, tuberous, 6 single.
4. Begonias, tuberous, 6 double.
5. Begonias, rex, 6 varieties.
6. Caladiums, 6 varieties.
7. Cacti, 6 varieties.
8. Coleus, 6 varieties.
9. Cyclamens, 6, in bloom.
10. Ferns, 6 varieties.
11. Fuchsias, 6 plants in bloom, 4 varieties.
12. Geraniums, 6 double, in bloom.
13. Geraniums, 6 single, in bloom.
14. Hanging Baskets, 2.
15. Hydrangeas, 3 in bloom.
16. Orchids, 2 in bloom.
17. Palms, 3 varieties.
18. Pelargoniums, 3 varieties, in bloom.
19. Primulas, 3 varieties, in bloom.
20. Roses, 6 plants in bloom.
21. Collection of 6 other decorative plants.
22. Collection of 24 plants arranged for effect.

Window Plants in Pots.

(Open to Amateurs Only.)

Plants grown in greenhouse subsequent to August 1st, or which are the property of professional florists, cannot be shown in this class, and no specimens can be shown in more than one section.

1. Abutilons, 2 plants, different.
2. Begonias, 2 flowering, different.
3. Begonias, 2 tuberous.
4. Begonias, 2 rex.
5. Cacti, 2 varieties.
6. Coleus, 2 varieties.
7. Cyclamens, 2 in bloom.
8. Farfugium, 1 plant.
9. Ferns, 2 varieties.
10. Ficus, specimen plant.
11. Fuchsias, 1 in bloom.
12. Geraniums, 2 single in bloom.
13. Geraniums, 2 double in bloom.
14. Geraniums, 1 fancy leaved.
15. Geraniums, 1 fragrant.
16. Heliotrope, 1 in bloom.
17. Hydrangea, 1 in bloom.
18. Lantana, 1 in bloom.
19. Pelargonium, 1 in bloom.
20. Palm.
21. Primulas, 2 in bloom.
22. Rose.
23. Any other decorative plant.
24. Collection of 12 varieties arranged for effect.

Cut Flowers.

1. Antirrhinums, 3 varieties, 4 spikes each.
2. Asters, 4 varieties, 3 blooms each.
3. Asters, 8 varieties, 3 blooms each.
4. Asters, quilled, 4 varieties, 3 blooms each.
5. Asters, white, 12 blooms.
6. Balsams, 3 varieties, 4 spikes each.
7. Calendulas, 3 varieties, 4 blooms each.
8. Carnations, 3 varieties, 4 each.
9. Carnations, 3 varieties, 4 each.
10. Coreopsis, 12 annual.
11. Coreopsis, 12 perennial.
12. Coxcombs, 6.
13. Clematis, 6 sprays.
14. Dahlias, 3 varieties, 2 each.
15. Dahlias, 6 varieties, 2 each.
16. Dahlias, 12 varieties, 2 each.
17. Dianthus, single, 3 varieties, 4 each.
18. Dianthus, double, 3 varieties, 4 each.
19. Gladioli, 12 spikes, not less than 6 varieties.
20. Gladioli, 24 spikes, not less than 12 varieties.
21. Gaillardias, 12 blooms.
22. Hydrangea Paniculata Grandiflora, 3.
23. Larkspurs, perennial, 6 spikes.
24. Lilies, 3 spikes.
25. Marigolds, African, 12 blooms, in variety.
26. Marigolds, French, 12 blooms in variety.
27. Mignonette, 12 spikes.
28. Nasturtiums, 24 blooms.
29. Pansies, 12 in variety.
30. Pansies, 24 in variety.
31. Petunias, single, 3 varieties, 4 each.
32. Petunias, double, 3 varieties 4 each.
33. Phlox Drummondii, 3 varieties, 4 each.
34. Phlox, perennial, 3 varieties, 4 each.
35. Roses, hardy, 4 blooms.
36. Roses, hardy, 3 varieties 4 each.
37. Roses, tender, 6 blooms.
38. Roses, tender, 3 varieties, 4 each.
39. Salpiglossis, 3 varieties, 4 each.
40. Stocks, double, 3 varieties, 4 each.
41. Scabiosas, 3 varieties, 4 each.
42. Sweet Peas, 6 varieties, 4 each.
43. Sweet Peas, 12 varieties, 4 each.
44. Verbenas, 3 varieties, 4 in each.
45. Zinnias, 4 varieties, 3 in each.
46. Collection of Annuals, 12 or more varieties.
47. Collection of Hardy Perennials, 12 or more varieties.
48 Basket of Cut Flowers.
49 Bouquet of Everlastings.
50. Buttonhole Bouquets, 3.
51. Hand bouquet of open air flowers.
52. Vase bouquet of open air flowers.

Garden Vegetables.

1. Artichokes, 12.

2. Beets, 6 long blood.
3. Beets, 6 turnip.
4. Cabbages, 3 flat.
5. Cabbages, 3 pointed.
6. Cabbages, 3 Savoy.
7. Cabbages, 3 red.
8. Cauliflowers, 3.
9. Carrots, 6 long.
10. Carrots, 6 stump rooted.
11. Carrots, 6 intermediate.
12. Celery, 6 golden.
13. Celery, 6 white.
14. Celery, 6 red.
15. Citrons, 2.
16. Corn, 6 ears, sweet.
17. Cucumbers, 6, for slicing.
18. Cucumbers, 1 quart, for pickling.
19. Egg Plant, 2 fruits.
20. Garden Herbs, 4 varieties.
21. Kale, 3 heads.
22. Lettuce, 3 heads.
23. Melons, 2 musk, judged for table quality.
24. Melons, 2 water, judged for table quality.
25. Onions, 12 white.
26. Onions, 12 yellow, other than prize-taker.
27. Onions, 12 red.
28. Onions, 12 potato.
29. Onions, 12 prize-takers.
30. Onions, 1 quart, pickling.
31. Parsnips, 6.
32. Peppers, 6.
33. Pumpkins, 2.
34. Radishes, 12 summer.
35. Radishes, 12 winter.
36. Rhubarb, 12 stalks.
37. Salsify, 12.
38. Squashes, 2 summer.
39. Squashes, 2 winter.
40. Tomatoes, 12 red.
41. Tomatoes, 12 purple.
42. Tomatoes, 12 yellow.
43. Turnips, 6 white.
44. Turnips, 6 yellow.
45. Vegetable Marrows, 2.
46. Collection of Vegetables, 20 varieties, 2 each, tastefully arranged.

EXHIBITS BY SCHOOL CHILDREN.

Rules Governing Class A.

1. All plants, flowers, leaves, fruits, roots, vegetables, weeds and weed seeds, mentioned in sections 2 to 6 of Class A, must have been grown and gathered in the school section making the exhibit, and in the case of section 7 caught within the Province.

2. Each plant shown in sections 2 and 3 shall be separately tied to admit of individual inspection. The plants of each variety shall be neatly bound together and labelled. In section 1, each variety shall be bound and labelled.

3. All the work in connection with each of the exhibits in Class A, must have been done by the pupils under the direction of the teacher, and with his or her assistance or supervision.

4. The prize money awarded to a school shall be paid to the teacher, who shall retain 25 per cent., the remaining amount to be equally divided among the children who have taken part in making or preparing the exhibit.

Class A. (Four Prizes in Each Section.)

1. To the teacher and pupils of a public school section making the best and best arranged exhibit of cut flowers grown in the school grounds.

2. To the teacher and pupils of a public school section making the best and best arranged exhibit of grain in the straw the growth of the current year, showing stools, branches and part of roots, consisting of six complete plants of each variety, with not more than three varieties of each kind of grain.

3. To the teacher and pupils of a public school section making the best and best arranged exhibit of clovers and grasses, the growth of the current year, showing all branches and part of root of each plant. This exhibit to consist of at least six plants of each variety shown. At least six varieties must be shown in each exhibit in this section.

4. To the teacher and pupils of a public school section making the best and best arranged exhibit of roots, fruits and vegetables.

5. To the teacher and pupils of a public school section making the best and best arranged exhibit of wild flowers and leaves of trees, pressed and mounted, each specimen to be properly labelled.

6. To the teacher and pupils of a public school section making the best and best arranged collection of weeds, cured and mounted, and weed seeds, in ounce bottles, each specimen and bottle to be properly labelled.

7. To the teacher and pupils of a public school section making the best and best arranged collection of beneficial and injurious insects, mounted and properly labelled and arranged in groups according to their habit or the fruit, grains, etc., which they attack.

FALL FAIRS FOR 1902 AS ARRANGED IN CIRCUITS BY THE SUPERINTENDENT.

Also List of Expert Judges Who Judged All Live Stock and Gave Reasons for Their Awards.

Division I.

Judges: Horses—W. F. Kydd, Simcoe. Dairy Cattle and Sheep—M. Cumming, Guelph. Beef Cattle and Swine—G. B. Hood, Guelph.

Fair.	Society.	Dates.	Judging.
Bowmanville	W. Durham Agrl. Soc.	Sept. 17 and 18	Sept. 18
Port Perry	Scugog	Sept. 17, 18 and 19	Sept. 19
Orillia	East Simcoe	Sept. 18, 19 and 20	Sept. 20
Ancaster	Ancaster Agl. Society	Sept. 23 and 24	Sept. 24
Smithville	S. Grimsby Agrl. Soc.	Sept. 24 and 25	Sept. 25
Meaford	St. Vincent Agrl. Soc	Sept. 25 and 26	Sept. 26
Wiarton	Amabel and Albemarle	Sept. 26 and 27	Sept 27
Tara	Arran Agrl. Society	Sept. 29 and 30	Sept. 30
Listowel	Listowel and Wallace	Sept. 30 and Oct. 1	Oct. 1
Lucknow	Kinloss Agrl. Society	Oct. 1 and 2	Oct. 2

Division II.

Judges: Horses—Henry G. Reed, Georgetown. Beef Cattle and Sheep—John Campbell, Woodville. Dairy Cattle and Swine—R. H. Harding, Thorndale, and S. N. Culver, Simcoe.

Fair.	Society.	Dates.	Judging.
Walkerton	South Bruce	Sept. 17 and 18	Sept. 18
Palmerston	Palmers'n & N. Wallace	Sept. 18 and 19	Sept. 19
Harriston	W. Wellington	Sept. 22 and 23	Sept. 23
Teeswater	Culross	Sept. 24 and 25	Sept. 25
Wingham	Turnberry	Sept. 25 and 26	Sept. 26
Flesherton	East Grey	Sept. 30 and Oct. 1	Oct. 1
Ridgeway	Bertie	Oct. 2 and 3	Oct. 3

Division III.

Judges: Horses and Beef Cattle—Hardy Shore Glanworth. Dairy Cattle—R. S. Stevenson, Ancaster. Sheep and Swine—Andrew Elliott, Galt.

Fair.	Society.	Dates.	Judging.
Port Carling	Medora and Wood	Sept. 22	Sept. 22
Sundridge	Strong Agrl. Society	Sept. 22 and 23	Sept. 23
Huntsville	North Muskoka.	Sept. 23 and 24	Sept. 24
Emsdale	Perry Agrl. Society	Sept. 24 and 25	Sept. 25
Bracebridge	South Muskoka	Sept. 25 and 26	Sept. 26
Stisted	Stisted	Sept. 26 and 27	Sept. 27
Magnetawan	Chapman Agrl. Society	Sept. 29	Sept. 29
Burk's Falls	East Parry Sound	Sept. 29 and 30	Sept. 30
Gravenhurst	Muskoka & Gravenhurst	Sept. 30 and Oct. 1	Oct. 1
Utterson	Stephenson Agrl. Soc.	Oct. 1 and 2	Oct. 2
Bobcaygeon	Verulam Agrl Soc.	Oct. 2 and 3	Oct. 3

Division IV.

Judges: Horses—J. M. Gardhouse, Highfield. Beef Cattle and Sheep—A. W. Smith, Maple Lodge. Dairy Cattle and Swine—Wm. Jones, Zenda.

Fair.	Society.	Dates.	Judging.
Brantford	South Brant	Sept. 23, 24 and 25	Sept. 24
Barrie	West Simcoe	Sept. 24, 25 and 26	Sept. 25
Wallacetown	West Elgin	Sept. 30 and Oct. 1	Oct. 1
Watford	Harwich	Oct. 2 and 3	Oct. 3
Otterville	South Norwich	Oct. 3 and 4	Oct. 4
Parkhill	W. Williams	Oct. 6 and 7	Oct. 7
Burford	Burford Agrl. Society	Oct. 7 and 8	Oct. 8
Southwold	Oneida Indian Society	Oct. 8, 9 and 10	Oct. 9

Division V.

Judges: Horses—Geo. Gray, Newcastle. Dairy Cattle and Sheep—D. G. Hanmer, Mount Vernon. Beef Cattle and Swine—J. E. Brethour, Burford. Sheep—W. H. Beattie, Wilton Grove; Peter Christie, Manchester, occasionally.

Fair.	Society.	Dates.	Judging.
Cornwall	Cornwall District	Sept. 4, 5 and 6	Sept. 6
Newington	Stormont County	Sept. 10 and 11	Sept. 11
Alexandria	Glengarry County	Sept. 11 and 12	Sept. 12
Vankleek Hill	Prescott County	Sept. 15, 16 and 17	Sept. 16
Metcalf	Russell County	Sept. 16 and 17	Sept. 17
Aylmer	Wright County	Sept. 17 and 18	Sept. 18
Perth	South Lanark County	Sept. 18 and 19	Sept. 19
Richmond	Carleton County	Sept. 22, 23 and 24	Sept. 23
Almonte	N. Lanark County	Sept. 23, 24 and 25	Sept. 24
Renfrew	South Renfrew	Sept. 25 and 26	Sept. 26
Shawville, Q.	South Pontiac	Sept. 30 and Oct. 1	Oct. 1
Chapeau, Q.	North Pontiac	Oct. 1 and 2	Oct. 2
Beachburg	North Renfrew	Oct. 2 and 3	Oct. 3

Arrangements were also made and judges sent to the following Fairs:

Peterboro'	Sept. 8 to 12	Judging	Sept. 11 and 12
Whitby	Sept. 23 to 25	Judging	Sept. 24 and 25
St. Catharines	Oct. 8 and 9	Judging	Oct. 9

EXPERT JUDGES ON THEIR WORK.

(From The Weekly Sun.)

Last fall a new departure was made in connection with judging at fall fairs. A number of agricultural societies in the Ottawa Valley agreed to hold their fairs in succession, in order that expert judges, named by Live Stock Commissioner Hodson, might go to one after the other, and not only judge the exhibits offered, but give reasons for the judgments rendered.

This system worked so well in this experimental sort of way, that at the meeting of the Fairs Association for Ontario, held last February, it was recommended that the system be extended, and in order to ensure the proper working out of the new idea it was further recommended that G. C. Creelman be appointed Superintendent of Fairs.

The latter recommendation was carried into effect, and Mr. Creelman was able to arrange this fall for sending expert judges to some sixty fairs in different parts of the Province. Some of these judges employed in this year's work have been good enough to report to The Sun on their share in carrying the new scheme into effect; on the sort of stock they found at the different exhibitions visited by them; and some also offer suggestions which, if acted upon, are calculated to make the new system even more useful than it is now.

The letters received from judges follow :—

Melville Cumming, Associate Professor of Agriculture, O.A.C., Guelph.

That the new departure in the way of judging at fall fairs is a decided improvement, so far as most of the fairs I was at are concerned, I have no doubt whatever. For the most part, the people seemed very ready, and in many cases eager, to hear our reasons, so that, in the course of discussions, one could generally ascertain what judgments had been rendered on the stock in previous years. Very frequently I could see that good judging had been done, but seldom did it occur that I did not find one or more sections

in which the judging had evidently been done by men who either knew nothing of the breed they were judging, or cared about little else than the distribution of prize money. Especially was this the case in one of the sections of which I was judge, viz., short-wool sheep (Southdowns and Shropshires). Time and again men brought in great, large, up-standing and open wooled Shropshires, and were very much surprised at having them "turned down" by smaller, but more compact, low-set, and better covered ones. In many cases I even found that they had left their best Shropshires at home, bringing instead their largest sheep; and in more than one case had bought sheep of this large, coarse stamp for the express purpose of winning premiums at the fairs. Now, to make a mistake in the placing of two sheep, very much alike and both of good breed type, is not a very serious matter, but to render such judgments as I have just referred to is evidently very pernicious, both to the breeder and to the spectator, and if nothing more has been done by this new system of judging than to rectify such errors, yet, a great deal has been accomplished.

I was on the same circuit with Major G. B. Hood and W. F. Kydd, and as both of these gentlemen will likely comment on the attendance, and other matters of general interest, I will pass over these points except in so far as to say that I found the presence of amusements on the fair ground seemed to be a drawing card, and that it frequently monopolized the attention of the people, and kept them from deriving any knowledge from the judging.

In this connection I would like to ask the opinion of some of your correspondents on the advisability and practicability of adopting the system which I saw followed at some of the smaller fairs in the Old Country this summer. The stock was all brought to the fairs in such time that the judging might begin at 9 a.m. The morning was then devoted solely to judging, there being nothing to distract one's attention from this feature. At 2 o'clock in the afternoon the stock was paraded before the grand stand, each animal in its own section, and in the place awarded it by the judge. After this ensued horse jumping and other amusement in front of the grand stand, and, as the judging was all over, everyone felt free to watch the amusements. In this way, anyone seeking not only an instructive but a pleasurable day, could combine both, and not lose any one of the educational features of the fair. Personally, I believe that some sort of amusement has to be provided in order to draw the crowds, and it seems to me that the above system is the only way of combining the educative and amusement features of the show without the one clashing with the other, so that the question upon which I ask for the expression of opinion resolves itself to this: Is it possible for farmers to have their stock at the fairs before 9 a.m.? The new system of judging will ensure the presence of the judges.

Dr. H. G. Reed, Georgetown.

Our work seemed to be well received by the different agricultural societies, but of course their reports to Mr. Creelman would give a more correct idea of what they really thought of it.

The weather was unfavorable for big crowds at the fairs this fall, yet we had, in most places, fairly good attendance. Heavy horses predominated in most of the places visited by me. This was particularly marked in Bruce and Huron, and I think this is the best class of horse for the ordinary farmer. I saw some very fine heavy horses in Teeswater and Wingham. In Harriston, Walkerton, and Palmerston there was a larger proportion of light horses, although the exhibit of many horses was very

fine. At St. Catharines, Peterboro' and Ridgeway the light breeds predominated, the heavy horses being of fairly good quality, but the number on exhibition was small.

I think we have far too many fall fairs; too much valuable time is lost attending them.

R. S. Stevenson, Ancaster.

My work as judge was confined to cattle. In this class I found plenty of room for improvement, although there were a few good ones at all the fairs. The want of good bulls, of course, is the cause of this poor class of stock. I found at some of the fairs they were offering prizes for grade bulls. This I utterly condemned; in fact, I refused to award prizes to them, and urged the directors to cut that class out of their prize list in future. In every case it was promised this would be done.

I found the Shorthorn to be the most popular breed in every case, as the section where I was judging is more of a beef-raising country.

The fairs were well attended, with one exception. The people seemed to be well pleased with the work of the judges, as they found us always able and willing to give reasons for the awards made; and if a particularly good animal was brought out we always made a point to call attention to it, and to point out the difference between it and an inferior one. The people seemed to appreciate this, and showed every desire to learn what they could from us.

The management of the live stock exhibits on the day of the show called for some censure from us, as there was not good order kept, and it was very difficult in some cases to do justice for want of room. We offered some suggestions as to having a ring roped off for the judging to take place in. The officers of the different fairs did everything in their power to make things pleasant for us, and generally seemed to take great pride in their exhibition, notably at Bracebridge, Huntsville, Burk's Falls, Bobcaygeon, and several others.

I feel satisfied the plan of sending expert judges is a good one, and, from what I heard when I was out, a good many other fair boards will ask for them next year.

William Jones, Zenda.

I found the stock, as a rule, to be of a high standard of excellence at most of the fairs I attended. This was especially so in heavy horses, beef breeds of cattle, and sheep. The dairy breeds of cattle, as well as swine, were, in many instances, quite as near perfection as the other breeds mentioned, but, as a rule, the latter were short in numbers.

The breeds that predominated in the sections we visited were Shorthorns in the beef breeds of cattle, and Holsteins and Jerseys in the dairy breeds of cattle. In sheep, Leicesters led in the long-wooled and Shropshires in the short-wooled varieties. In swine it was Berkshires, Yorkshires, and Tamworths. There were scarcely as many Yorkshires as we expected to find.

The fairs, as a rule, were well attended. Brantford, on our circuit, was the only one that did not have a fair attendance.

The people we came in contact with were, as a rule (both exhibitors and officials), well pleased with the new departure in judging. I received no suggestions from the people, only that we should notify the fair boards ahead, say, a few days, that we would be there by such a time. The only

suggestion that I would make is to have all the prize lists remodelled and made up-to-date, as well as the judges' book, and at all times that precautions be taken against sending anything but really first-class men, as in this very largely depends the success or the failure of the enterprise. Moreover, all judges should, as nearly as possible, judge from the same standpoint, in order that their explanations in making their awards would all have a like effect in educating the exhibitor and onlooker in the same direction. The arranging of dates by the Superintendent of Fairs would greatly assist in a better service by the judges, as a circuit could be arranged in such a manner that they could make their appointments easier and have more time to do their work. Under circumstances that existed this season, it was at times very trying to get through in time for the next appointment, and still take the time that should be taken to do justice to the fair in hand.

Andrew Elliott, Galt.

The section to which I was sent was Muskoka and Parry Sound districts, where shows at the following places were visited: Port Carling, Sundridge, Huntsville, Emsdale, Bracebridge, Stisted, Magnetawan, Burk's Falls, Gravenhurst, and Utterson. I also attended the exhibiton at Bobcaygeon, in North Victoria. My associates in judging were : R. S. Stvenson, of Ancaster, who judged cattle; Hardy Shore, of Glanworth, who took horses; I passed upon sheep and swine.

In cattle the quality was only fair, but in most cases a large number were brought out. On account of the broken character of the country, and the difficulty of getting good roads, cheese or butter factories are not plentiful, and on that account the general purpose cow is preferred, a cow that, while giving a fair amount of milk, will, if properly mated, produce a steer good enough to sell as a stocker, to finish for the export. Mr. Stevenson did not fail to advocate the use of pure-bred males of a beefing breed to accomplish this result.

Horses in many cases were of an inferior class. There are evidently too many inferior small trotting stallions in use. Much better would it be if people will breed light stock to use a good type of Hackney or Thoroughbred stallion, whose progeny will have substance enough to work on the farm if they cannot be sold for fancy use, instead of running to weedy trotting stock, whose only recommendation is that they can for a short distance rush rapidly through space.

Hogs were out in small numbers. Here the bacon hog is not in evidence, the Berkshires and American breeds predominating.

The exhibits of sheep, while in almost all cases large, were of a very mixed quality. Grade rams are used, and apparently the best lambs are sold, and the culls used for breeding purposes. It speaks volumes for the suitability of this part for sheep to find the stock that is produced so good individually. A number of very good flocks were shown, notably at Gravenhurst. Sheep were run in entirely unfitted, long-tailed and burry. Many exhibitors seem to have a very hazy idea as to the type of breeds they are supposed to show. In passing judgment, the judge explained at length what were the type characteristics of the various breeds, placing the awards as much as possible upon animals that approached the most nearly to that type.

In this part, as in other parts of the Province, a very serious mistake is made in leaving male lambs (that are not intended for breeding) untrimmed, and in this part alone hundreds of dollars are lost to the farmers by their carelessness in this respect.

The exhibit of butter was exceedingly good, it having a firm body and high color, while roots and vegetables were simply immense. In fruit, the show of apples was a surprise, showing unmistakably that apples of the best quality can be produced in the Highlands of Ontario.

This northern part of the Province is now in a state of transition. Game and lumbering are passing away, and the summer tourist is coming. Already cottages have sprung up, where the deer and wolf only a few years ago roamed at will. With the tourist has come a splendid market for the product of the farm, almost at the doors of the settlers, and it only remains for the farmer to rise to the occasion. There is an unlimited market during the summer months for eggs and poultry, for milk, butter and cheese, for lamb, and for vegetables, and the capability of the country is unsurpassed for their production.

Although a great deal of the land is rough and rocky, and much of the arable land is not of the best quality, still, on account of the moist climate, vegetation is abundant. It only requires that more attention be paid to the production of live stock to make that branch of farming very profitable.

Reverting to the system of judging, I would say that this, properly safeguarded, can be made the means of doing much good. What is wanted is a uniform system of making the awards. This can be obtained in two ways: (1) By selecting men who are thoroughly up-to-date in their knowledge of live stock; and also (2) by (whenever possible) returning the same judges year after year to the same district.

The prize lists and management might be improved upon, and, having this end in view, a meeting of the secretaries during the meeting of the Canadian Fairs Association would be of great benefit.

John Campbell, Woodville.

I shall endeavor to give a sketch of my work in judging beef cattle and sheep in the Counties of Bruce, Wellington, Huron, Grey and Welland. The companionship of Dr. Reed of Georgetown, who passed on horses; R. H. Harding of Thorndale, who judged dairy cattle and swine first week, but was not able to continue the work because of home calls, and S. N. Culver of Simcoe, who took up Mr. Harding's work, helped largely to make the tour very enjoyable, and one long to be recalled with pleasure.

The sending out of judges, with instructions to give their reasons for making their awards in class after class, was a new departure, and in the line of experiment you may be sure we considered our positions to be responsible ones. Besides that, we individually felt our reputations were at stake, so, therefore, little room was left for slipshod or careless work, or partiality either, should such temptation present itself. As so much work happened to fall my way, little or no time was left me to see what my colleagues were judging, though I was fortunate in getting the help of both Mr. Harding and Mr. Culver when their work was light, as it too often was My remarks, therefore, will be confined to beef cattle and mutton sheep.

When judging I worked (as explained to the listeners, of whom there were many, the ring sides being packed day after day) from the following standpoints :

(1) type; (2) form; (3) flesh; and, in case of sheep, (4) fleece; and gave my reasons along these lines.

Whatever the verdict of the public may be regarding the experiment we had the satisfaction of seeing intense interest taken in the proceedings and most courteous were the spectators and exhibitors to us throughout.

Many kind words of approval would frequenly float in from the crowd; and, now that the work is done, we are gratified, in leaving, to learn that the secretaries of fair boards have officially reported favorably on our doings. To show the interest taken, allow me to mention an instance. At Wingham, while going to our hotel, a young man (not an exhibitor) told me of his having passed the whole afternoon at the cattle and sheep ring sides, and that that was the second day he had done so.

In cattle, Shorthorns and their grades outnumbered all others. In fact, at such fairs as those held at Walkerton, Palmerston, Harriston, or Wingham, the above classes were more in numbers than all other cattle at the whole eight fairs we attended.

In Bruce, Wellington, and Huron Counties, the exhibits were very creditable, some of the animals comparing favorably with those seen at Toronto or London. The Shorthorn bulls were, in older sections, especially good, and fortunate it is for the breeders in the vicinity of where they are kept to have such good ones available. With so many good, useful sires, progress is certain to be the rule in the north-western districts. But calves did not prove worthy of the aged bulls shown. Too many inferior ones were out. On the other hand, in female sections, the calves had the gains of their sex, while heifers were good, and cows were useful looking. But dehorned cows and heifers were obliged to take lower places than probably they would have done had they had their horns to help show their Shorthorn type and character.

At Teeswater, Huron County, and Flesherton, Grey County, Shorthorns did not class so high as at the above mentioned fairs. At the latter place Aberdeen Angus put in an appearance. One fairly good lot was out in Welland County.

The classes were well arranged, and were well filled, as we found to be the case at all the fairs; but in the balmy south-eastern point of our Province, where nature appears to have been lavish in bestowing so many good things, man, as the producer of good stock, has come short, far short, of his opportunities. Stock of all kinds, with a few exceptions, we found, on comparing notes in the evening, was not at all equal to that in the north-western counties. Both in feeding and breeding, the Niagara district farmers are far behind; but, what is to their credit, and a hopeful lookout for the future, they realize their shortcomings.

Shorthorns in Welland County were only fair, but grades would not class even that. At Flesherton grades did not rank so high as at the other western fairs. In this class, Walkerton and Wingham had the best lots, while Palmerston and Harriston stood next.

Never outside of a fat stock show have I seen in Canada such well bred, growthy, sappy bullocks. It was a pleasure to place awards in such rings, even if the doing so was often difficult, as very few were haltered. At Wingham a class of two-year-old steers, some ten in all would do even Britain credit. When judging at Flesherton, and still more so when at Ridgeway, Welland County, the thought uppermost in my mind was what a tremendous yearly loss to our Province is represented by the inferior class of stockers and feeding steers which unfortunately are so much more common in many sections of late years. That I lay largely to our Governments, both Federal and Provincial, having for so many years given such liberal assistance to the dairy interests, while they have, comparatively speaking, neglected the beefing interests of the country. There is no doubt that those counties which have already made such great progress in perfecting the beef-making breeds are more suitable for that line of business than any other.

Beginning with Bertie fair, at Ridgeway, Welland County, sheep, while well represented in numbers, were not up to a good average, except Southdowns. Two lots of these were good in quality, and in nice show condition. That was the only fair where that class was shown. Long wools were not well represented. Two lots of Oxfords were fair in condition and quality. Plenty of room for improvement, was my thought. At all the western fairs, except Walkerton and Teeswater, Leicesters led the way in numbers and quality. At the latter points, Messrs. Tolton and Arkell's Oxfords made good showing in numbers and quality. Shropshires, on the whole, followed Leicesters in being typical and fairly well fitted. All through, Leicesters were closer to type than any other breed. But, I want to say that several of the Shropshires and Oxfords put into the rings should go as quickly as possible to the butcher block, as their presence at a show, or in a flock at home, proves a damage to the breed, and an ultimate loss. Progress in beef and mutton making is the order of the day; but, alas! there are too many contrasts, which cry loudly for more care in breeding, more liberality in feeding, and more ever-constant enthusiasm in the stock growing business, which has now become the mainstay of the successful and comfortable life on the farm.

We found a deep-rooted conviction generally expressed, of there being too many small fairs for the good of the country. With the changes in farming, the show season has become a very busy time on the farm, and, labor becoming more costly, so much fair going is getting to be a burden to many. To solve the difficulty, without destroying the benefits resulting from local fairs, is a problem requiring solid thought. How to preserve their useful features, and, at the same time, lessen their numbers, is the unsettled question.

Giving reasons for making awards appears to have proved a drawing card, as all the fairs we attended were well patronized by the public. I am now satisfied that it is the proper way to judge, as the onlookers can learn more, the exhibitor knows wherein his exhibits excel, or fail, and the one doing the work is apt to have his wits sharpened by an unlooked for question by some interested spectator.

R. H. Harding, Thorndale.

I was not appointed as one of a regular staff, as I had not the time at my disposal. I went out in case of emergency only, so I was not out long enough to be able to pass judgment upon the system. So far as I could learn, however, the system is going to give general satisfaction, providing the experts are given time to enable them to do their work without too much haste. In the cattle department, Shorthorns and Shorthorn grades made up the greater part of the exhibits, while Shropshires and Leicesters were the principal breeds represented in sheep. The swine exhibits were extremely small. Within a rifle shot of the Palmerston pork packing factory, with a prize on the list for bacon hogs, none came out to compete for it.

THE WHITBY MODEL FAIR.

The Practical Working out of the New Idea in Fair Work.

As Reported by W. L. Smith, Toronto, for The Weekly Sun.

During the last ten years of the century recently ended, there was a more or less steady decline in the average county and district fall fair. This decline, rightly or wrongly, came to be attributed to the fact that the agricultural societies which controlled these fairs, had allowed the exhibitions to drift from the purpose behind the creation of the organizations—to become mere centres of amusement, instead of continuing, as originally intended, an important part of our educational system.

During the last two or three years no subject has been more earnestly discussed among progressive farmers than the one arising from this state of affairs. In all the discussion which has taken place hardly a word has been heard in favor of continuing along the lines followed of late. The one question was, Shall we mend or end ? The debate closed at the meeting of the Fairs Association, held in Toronto last February, with a practically unanimous determination to mend. With a view of carrying that decision into effect, it was recommended (1) that G. C. Creelman be made Superintendent of Fairs; (2) that there be a general change in the prize lists; (3) that expert judges be appointed, who could go from fair to fair, and, besides passing judgment, give reasons for their decisions, as well as short practical talks on the sort of live stock the market of to-day calls for; and (4) that, as a means of facilitating this work, fairs be arranged in circuits, so that the experts might pass from one to the other without loss of time.

Later on, something more than this was done. It was decided—in addition to sending out judges to the general circuits of fall fairs—to select one fair in particular, and endeavor to make this serve as a model for all the fairs of the Province. In accordance with this idea, arrangements were made by F. W. Hodson, Live Stock Commissioner, and Superintendent G. C. Creelman, through the directors of the Ontario and Durham Association, to use the fair at Whitby for this purpose. Messrs. Hodson and Creelman co-operated with these directors in preparing prize lists and rules, and assisted with suggestions as to new features. They also secured the services of members of the Staff of the O.A.C. and Dominion Department of Agriculture in connection with the educational part of the programme while the fair was in progress.

What measure of success was secured in working out this model fair idea will be told in the report which follows.

AT THE PARTING OF THE WAYS.

By Hon. John Dryden, Minister of Agriculture for Ontario.

The fair really opened with a public meeting in the Music Hall at Whitby on Tuesday evening, when Mayor Ross officially welcomed visitors from a distance, and Hon. John Dryden presided.

"We are," said Mr. Dryden, in commencing, "so far as the policy governing these fall exhibitions is concerned, at the parting of the ways. We have arrived at a point where we must choose between two lines—the spectacular and sensational, and the educational and useful. In the case of this fair, the latter has been chosen.

"It is no light matter we are dealing with. It is one involving the proper appropriation of a very large sum of public money. The local fairs of the Province involve some $420,000 every year in their maintenance—the Government providing about one-sixth of this, the municipalities in the neighborhood of one-tewntieth, the balance being made up of fees, gate receipts, and gifts from individuals.

"Have we been getting a fair return for all this money? Some of the funds spent have undoubtedly been wasted, but, taking the country as a whole, I believe good has been done by the expenditure, and I am convinced still better results, under the improvement now being introduced, will be accomplished in future.

"The great service rendered by these fairs is in stimulating people to produce something of superior merit. Many have gone home from a local show, where they have seen what others have produced, determined to produce something better themselves. The first inspiration in my own case was received 40 years ago as a result of seeing what others, now gone, had accomplished. All these fairs should stimulate a healthy rivalry. Rivalry has given us our best merchants, our best lawyers, and should give us our best farmers.

"At these fairs, again, we should be able, in the form of prize animals, to present proper ideals before our people—to set before them models of excellence which they should endavor to duplicate. This is not always done. One of the expert judges at the local fairs now being held, when calling on me the other day, said that he had, at one fair, found placed before him three animals only, and none of these were deserving of first prize. The first was not a good model, the second was somewhat blemished, and the third decidedly unsound. I told him in that case he should have sought the permission of the directors to place a third-class ticket on the best of the three, and to placard the others as unfit for a place. Thus, instead of setting up incorrect ideals before beginners, he would have given them an object lesson on what to avoid. I hope, indeed, that some day we shall go so far as to show how the ideal can be produced.

"I am especially glad that at this fair the co-operation of the Women's Institute has been secured. We have—in connection with our educational work for the uplifting of agriculture—to a certain extent overlooked the home life on the farm. I am a strong believer in the influence home can be made to exercise on the moulding of character, and I am glad, therefore, that the assistance of the women has been secured, to show us how that influence can be increased."

THE WOMEN'S INSTITUTE TENT.

Alex. McNeill, of the Fruit Division of the Dominion Department of Agriculture, took up the idea of woman's part in the new work, and carried it still further.

"There are," he said, "two features in connection with this Ontario and Durham Model Fair which should appeal to the people of the town as well as to those of the country. One of these is in the attention that is being paid to women's side of life, through the Women's Institute. I do not know of any institution which, if properly worked out, is calculated to do more for the uplifting of this country than the Women's Institute. This organization, created for the purpose of improving home management and brightening social life, should not be considered as intended for farmers' wives alone. The home life of the town, as well as the home life of the country, can be improved by its aid; and, if country and town unite in

making the most of the advantages offered through the Institute, a bond of union will be formed that will be a potent influence in holding the two sections of our population together.

"The other feature in this fair which should appeal to the townspeople is in the measures taken to interest and instruct the boys and girls. The boys and girls have been neglected even in our school system. Twenty-five years ago we had the best school system in the world. We have just as good a system now as we had then, but one that is very little better. Meantime, other countries have made such marvellous progress that we are to-day relatively behind in the race. We are introducing in this fair something that will help us to catch up with the procession ; we are endeavoring—by the use of plants, seeds, flowers, and woods—to teach our children by means of actual things, rather than by the use of words and books. We have made a fetish of books, as if these were all; they should be considered as merely the means by which knowledge of living realities is conveyed to the mind. They are the tools of the matured mind—not the instruments of instruction for those who yet have to learn what these realities are.

"I hope what is being attempted at this fair will very soon be introduced as a feature in our Public School system. That is the system which has made of Germany one of the first nations of the world ; it is by means of this system that Denmark, which we looked down upon a few years ago, is to-day so much our superior ; and to the same system is due the fact that Sweden, in the frozen north, is ahead of us at the present time."

BETTER JUDGING.

By Prof. H. H. Dean, O.A.C., Guelph, Ont.

"A pound of butter is," said he, "through the medium of the cow, produced from ingredients most of which come from the air. That is one of the great advantages connected with the dairy end of farming. You produce a valuable commodity for market, without at the same time impoverishing the soil.

"Now, in judging butter at a fair, 100 points stand for perfection. In estimating the number of points that should be awarded the first thing the judge looks at is the package. This package (and Prof. Dean held up his purchase to the audience) is not neat and attractive. Such a package would not score more than two out of the five points allowed for a first-class package.

"After looking over the package, we put in the tryer, for the purpose of extracting a sample of the whole specimen shown. The sample extracted (and Prof. Dean suited the action to the word) is first passed under the nose, and then tasted. In this way the flavor is judged—by the sense of smell first, and then by taste. What is flavor ? That is one of the hardest things to describe. It should be sweet and aromatic, but one can learn to judge it only by practice, and by comparing his judgment with that of others. Now, this butter has a buttermilk flavor; the cream was probably kept too long, and allowed to get over-ripe before churning took place. For perfect flavor—we never get it—45 points is allowed; 43 is considered first-class, but this would not rate over second or third.

"This butter is sweet, but gritty, and grittiness is decidedly objectionable. This grittiness has been caused by the use of too much salt, or salt of inferior quality. Any buttermaker who knows his business will never think of using inferior salt. If the butter is good it is a great mistake to spoil it by using inferior salt. And do not use too much—three-

quarters of an ounce to an ounce per pound is ample. Ten points are allowed for perfect salting, but this would not score over five.

"The grain or texture of the butter is another feature taken into account. The butter should not be too hard, nor yet soft and greasy. It should be of a firm waxy texture. If of proper texture the tryer will come out without any of the butter adhering to the back of the instrument. For texture the maximum number of points is 25, and this would score about 19 or 20.

"A uniform color throughout the butter is called for. The mottled or streaky appearance which sometimes appears is generally due to uneven distribution of the salt. Salt deepens the color of the butter, and a little extra in one place, with deficiency in another will cause one part to be deep in color and another light. Unevenness in color may also be caused by failure to wash out the buttermilk. The color should not be too pronounced, For too much coloring I would score down, although unevenness in color is the main defect usually found.

"Now, how are you to get the good flavor which makes up 45 out of the possible 100 points? You must start with what the cow eats. You cannot get well-flavored butter from cows which are fed on rag-weed, turnips, or spoiled ensilage. Plenty of sweet wholesome food for the cow is the first condition requisite to the making of well-flavored butter. Cleanliness in the making is most important. The proper ripening of the cream cannot be overlooked. Too many leave the cream to ripen or sour of itself; this process should be controlled. We have butter made in the College factory last June, which is of better flavor now than this butter, made, perhaps a week ago. How has this result been obtained? By pasteurizing the milk, using a pure culture to ripen the cream, and holding the butter in cold storage. I believe the time is coming when farmers, as well as professional butter-makers, will be required to understand all these things.

"The texture of the butter is largely controlled by temperature at time of churning, and coloring can be controlled by feeding."

Then Prof. Dean made a statement that formed the most important part of his whole address. It was this: "In my opinion, the proper place to make butter is in the factory, and not on the farm. I do not believe that we shall ever attain the position in dairying we should attain until this change is brought about. Our butter industry depends for its full development on the expansion of our export trade, and an export trade finds its only possible basis on the factory system. Why? Because with one hundred private dairies you have one hundred different standards, whereas if these hundred milk producers send their milk to a factory, under the management of a skilled butter-maker, there will be one standard, and that standard should be such as to meet the requirements of the British market. The market for creamery butter is almost unlimited, but the market for home dairy is already over-done. Hamilton was once one of the best local markets in the country, but the report that comes from there to-day is that the place is full to overflowing with home dairy butter. And the report that comes from there is repeated from all other parts of Ontario. If this sort of thing goes on—if the output of home dairy butter continues to increase—we shall eventually be forced to export that also; and then, because of the variable quality of this butter, and the good becoming tainted with the bad with which it becomes mixed in shipping, we shall hear again the report that we heard in the old days—that 'Canadian butter is fit only for axle grease.'"

DOMESTIC SCIENCE.

By Miss Agnes Smith, Hamilton.

The first event in connection with the women's part of the fair was an address by Miss Smith at the public meeting in the Music Hall on the first evening of the fair. "Domestic Science! What do these words mean?" she began. "Perhaps the use of the word 'domestic' has led to a misapprehension. A good many people seem to think this new science has nothing to do save with the preparation of fancy dishes. I believe myself the term 'household science' would, perhaps, convey a clearer idea of what we mean. This science includes a study of all that has to do with the home—its location, sanitation, conveniences, cooking, and the moral training of the family.

"The body requires, and should receive, the most scrupulous care. Lack of care of the body ranks second only to suicide in the criminal calendar.

"An animal is modified by the food it consumes; so is a man. By proper selection of our food we can, to a large extent, control our physical and moral development.

"A full recognition of this fact tends to elevate the duty of cooking to its proper level. We place the science of medicine on a very high plane, and deservedly so. But what is the physician's vocation in comparison with that of the cook? The former is a mere mender and patcher, while the latter is a creator. If we were as careful of the training of our cooks as we are of the training of our physicians, the occupation of the doctor would soon be gone.

"Next to the body in point of importance is the house we live in. That is really an extension of ourselves. The work of keeping that home clean is one of the chief duties of the household; it is equally a duty in providing for this, to select such furnishings, etc., as will reduce the necessity of cleaning to the lowest possible limit.

"In furnishing, buy nothing unless you need it. We so often buy things because other people have them. Be convinced of the need of an article before buying it.

"The home—included in this is the whole range of household economy—is the most important factor in the onward progress of the race. Those who are to have charge of the homes of the future should be taught at least some of their duties in the Public Schools, and for those of us who are past school age, the Women's Institute should be made a life-long school, through which we can aid and assist each other in the work of home-making.

WORK OF THE EXPERIMENTAL UNION.

(By C. A. Zavitz, O.A.C., Guelph, Ont.)

Director Zavitz, at the Tuesday evening meeting, gave an excellent address dealing with results of experiments carried on through the Experimental Union, of which he is the head—a union embracing some of the most progressive farmers in every county of the Province, and the members of which conducted some 3,000 experiments last year in the production of different varieties of grains and seeds.

The importance of this experimental work will be understood when it is remembered, as Mr. Zavitz said, that the market value of the field crops of Ontario is about $100,000,000 a year. Even a small percentage added to the yield of these crops, as a result of investigation into the merits of dif-

ferent varieties, will mean a very large addition to the annual income of the farmers of Ontario.

"I am," said Mr. Zavitz, in his address, "as a result of experience gained in experimental work continued over twelve or fifteen years, convinced that we must, if we want the best results, give more attention to the selection of varieties in seeding. We must also pay more attention to quality in the variety selected.

"Let me give you one illustration of the latter. We carried on an experiment running from five to eight years, for the purpose of determining the respective value of large and small grain for seed. The grains selected were all plump, the only difference being the matter of size. In oats we found that large seed gave an average yield over the period named of 54 bushels, and small seed 50—a difference of four bushels per acre in favor of the large. In peas we got 30 bushels per acre from large and 24 from small. In spring wheat the respective yields were 22 and 17, and in winter wheat 42 and 37. Lumping the yields in all these several classes of grain together, it was found that large, plump seed gave a return of 42 bushels, as against 35 for small plum. There was a difference of seven bushels, which was secured simply by the size of the grain used in planting.

"Realizing the fact that the bulk of the grain now raised is intended for feeding live stock, we have endeavored to find out how the largest yield of feeding grain can be secured. Experiments conducted with this end in view have shown that by combining different grains in seeding we can get a larger yield per acre than we can by sowing any one variety singly—the difference in favor of mixed grains being about 200 lbs. per acre.

"The date of seeding is another important factor in controlling yield. In experimenting in this line, we have made the first sowing just as soon as the land was fit to work, with five subsequent seedings a week apart. What did we find? That every day's delay in seeding after the earliest possible date, meant a loss of 42 lbs. per acre in the yield.

"Our work has covered methods of cultivation as well as selection of seeds and seeding. One of the experiments under this head consisted in plowing green crops under. Two crops selected for this purpose were buckwheat and peas. Plots on which these crops had been plowed under were sown to fall wheat, and it was found that the plot on which peas had been plowed down gave an average yield of six bushels per acre more in the subsequent wheat crop than did that on which buckwheat had been plowed under.

"Our experiments along these and similar lines, reached a very large number of people last year. But this year we are going still farther. The plots planted here at Whitby fair represent one extension. Why could not the same idea be applied on the grounds of every county fair in the Province? The object should repay the cost in time and money."

What Mr. Zavitz said is emphatically true. What was done at the Whitby fair in the planting or illustration plots should be duplicated at every fair in Ontario. No more interesting or valuable feature could be adopted in connection with fall shows. Furthermore, the service of members of the Agricultural College staff and officers of the Departments of Agriculture at Ottawa and Toronto should, as far as possible, be utilized at other fairs as they were utilized at Whitby. There is no place where the same facilities are afforded for imparting the knowledge these gentlemen possess as at a fair, at which are gathered specimens of the products which it is the object of all our agricultural educational work to multiply and improve.

Whitby Fair Grounds.

General view of the Experimental Plots on Whitby Fair Grounds. These plots made the most attractive exhibit on the grounds. The Women's Institute tent is seen on the left of the picture.

A COUNTRY'S CHIEF ASSET.

ADDRESS BY DR. MILLS IN OPENING THE FAIR.

The Hon. Mr. Fisher had been announced to open the show, but the Minister was unable, owing to illness, to fill his engagement. The vacant place was filled by Dr. Mills, of the Agricultural College.

"Our fairs," he said, "have professedly two objects to serve. One is to encourage, by means of prizes, the growing of better live stock and the manufacture of better articles. That object has been kept fairly well to the front. The second object, the extension and development of agricultural education, has been largely lost sight of. I am glad, however, to see that both ideas are united in the Whitby Model Fair, and that you are making this exhibition one of great educational value. Indeed, I never looked over a programme which showed so many contributions to the educational features as are shown in the programme prepared for this exhibition. I see, among other things, that you have provided for expert judges, who are expected to tell us how to breed and feed in order to produce the best quality of live stock. The sample plots, showing different varieties of growing crops, is another excellent feature. The man who conceived that idea, as well as the man who carried it into effect, are deserving of the greatest possible credit. The demonstrations in home economics will also prove of special value. In fact, the whole exhibition is unique in so far as the eduactional features are concerned.

"The value of education, as applied to the practical, everyday affairs of life, cannot be overestimated. There are two factors which determine the extent of our national progress and development. One of these is found in our soil, minerals, and climate, but the more important of the two is found in our men. We cannot change the character of our soil; we cannot increase our minerals; neither can we modify our climate. But we can improve our men by means of education. That a good deal has already been done along these lines is proved by the fact that whenever any international competition takes place we always succeed in holding our own. At the Pan-American we came into competition not against one State, but against all the States. Great as our resources are, they are not superior to those of the United States; excellent as our climate is, it is not superior to that to be found in some of the States. Still, in competition with all the States of the Union, we more than held our own. Why is this? It is because of the men. We have here a mixture of English, Irish, and Scotch, with a blending of the German. We have improved upon the English; we have improved upon the Irish; we have improved even upon the Scotch.

"Oh, the latter was easy enough," put in Arthur Johnston.

"And it is the men who tell every time," continued Dr. Mills, "and a show such as this, with splendid educational features, is of the greatest possible value in adding to the practical training on which the further development of our country depends."

PLEASED WITH THE SCHOOL CHILDREN.

In speaking at the public meeting in the Music Hall on the second evening, Dr. Mills still more strongly emphasized the value of the fair as a public educator.

"It will," he said, "be of the greatest possible value in this direction. Nothing in the whole fair pleased me more than the exhibits made by

WHITBY FAIR GROUNDS.

This view of the Experimental Plots shows a good crop of Soy beans in the foreground. Soy beans are advocated by our best authorities as a substitute for field peas where the Pea Weevil has practically prevented the growing of peas. The Soy bean also makes a valuable silo crop, and with corn makes a good-balanced ration for cattle.

the Public Schools. I sincerely hope the idea worked out there will be extended to every Public School in the Province of Ontario."

Dealing with the educational work done at the College of which he is head, Dr. Mills said : "We give a good deal of attention to English in our work, because, unfortunately, that part of the education of a good many of the boys who come to us from the farms has been sadly neglected. We give some attention to mathematics, some to zoology, considerable to entomology, a great deal to bacteriology, and to chemistry and economical botany we give as much attention as is given in the University itself. We are endeavoring to prepare our students for the work of controlling the whole system of agricultural education in this country."

In referring to education in general, Dr. Mills said that one of the first things to be taken into consideration in determining the sort of education to be given a child is the environment of the child.

"If," said he, "there is any place where practical training should be given, it is to the poor, and yet in how many houses belonging to the poor you see the most striking evidence that the one in charge does not—owing to lack of practical training in youth—know how to take care of it!"

THE FAIR IN GENERAL.

Now, a word as to the fair in general. The exhibits in Shorthorn cattle and Clydesdale horses were exceptionally good. The exhibits in bacon hogs were perhaps the best ever seen at Whitby. Of the school children's department and the Women's Institute work, too much cannot be said in the way of praise.

But, when all this has been said, praise of the fair proper—so far as those parts of it depending on local effort are concerned—is at an end. Whitby is the centre of one of the best farming sections in Ontario. Still, the display of roots and grain was not larger than one would have expected to see at a township exhibition. The town is also the centre of one of the best apple producing sections of Ontario; but no one would have learned this from the display of fruit made at the exhibition. The show in this particular was not nearly so attractive or extensive as that made away up at Bracebridge last fall. Indeed, the main building, taken as a whole, outside of the school children's department, would—save for the splendid exhibits sent by the Ontario and Dominion Departments of Agriculture, and the sending there of the exhibit made by New Ontario at the Toronto Industrial—have been little more attractive than a jail wall.

While some did their duty nobly, it is nevertheless true that in too many lines there was an evidence of lack of appreciation of what was due from the locality towards a fair for which so much was done from the outside. Part of this was probably due to want of knowledge on the part of some as to what was required, and part to indifference or hostility to the new system. But this does not explain all. An explanation of the partial failure, in some departments, must be looked for in the fact that in South Ontario, as in too many other parts of the Province, the annual fall fair has come to be looked upon rather as a medium through which money prizes can be obtained, than as a means of making a display which will be a credit to the section, and an indication to all comers of the quality of what can be produced therein. What is most urgently required in connection with all such enterprises as this, is a development of public spirit and local pride —a spirit that will lead people to do something for the credit of the locality they live in, and without always considering the element of personal profit alone.

Whitby Fair Grounds.

This picture shows the grass and clover plots in the background and sugar beets in the foreground. The entire series of plots on the Whitby fair grounds occupied but half of one acre.

But, while the fair failed, in some particulars, as a mere exhibition, this failure was more than offset by the splendid educational work done in the Women's Institute tent; in connection with the experimental plots and O.A.C. exhibit; in the live stock departments, including the talks at the ring side ; in the public meetings, and in the work of the school children. Many who were sceptical at the start were enthusiastic at the end, and it is safe to say that no county fair of late years has given such general satisfaction as the one held at Whitby last week. People in that section now understand, as they did not understand before, what the new idea in fair management means, and will be more fully prepared to co-operate next year in making their exhibition not only a great educational fair, but a full exposition in all lines of the splendid resources of the district.

HOW WOMEN CAN HELP.

By Uniting Town and Country in a Common Interest.

When the fair ground itself was reached it was found that none too much had been said by Mr. McNeill relative to the work which the women had undertaken in connection with the show, and as to the manner in which women on the farm can combine with those in town in working out the great problems of home-making.

The Women's Institute of South Ontario had a tent on the grounds, where friends of the Institute were entertained freely at all times, and in which demonstrations and informal talks on household topics were given at stated periods by Miss Smith of Hamilton and Miss Hunter of Toronto.

The tent was thronged daily, and farmers' wives did not form the entire visiting list. In fact, it is doubtful if they were in the majority, the wives of business men in the town finding as much to interest and instruct as did those whose work lies in the open country. Nor did all the visitors come from the immediate neighborhood. There were some there from as far east as Hastings, from North Ontario, and other quarters. Every afternoon the tempting odors from appetizing dishes in course of preparation floated out through the door of the tent, while the voices of the demonstrators were heard explaining the why and the wherefore.

The manner in which the woman's part of the work was carried on was a credit to Mrs. J. L. Smith, the president; Miss Lick, the secretary; and Mrs. Sanford Brown, one of the most efficient workers in the organization. The Institute had a membership of nearly 100 before the fair, and, as a result of the work done at the fair, an increase of 25 per cent. was made to the list of members. The Institute has shown its usefulness in other ways, in addition to the assistance rendered at the fair. It has sepnt an average of about $10 a year in purchasing books for the Institute library. Most of the books are selected from the Chautauqua course.

"There is," said Mrs. Brown, "a central district library, and branch libraries for the subordinate branches. Once a year the books are reapportioned among the different branches. Thus each member of the Institute secures the benefit, in the course of time, of the whole library. Besides this, two monthly periodicals, dealing with the work of the women of the home, are supplied to each branch of the institute."

WHITBY FAIR GROUNDS.

A closer view of three of the plots. Such experiments might be tried with profit on every fair ground in Ontario.

THE CHILDREN'S PART OF IT.

Specimens of Insects, Flowers, Leaves and Woods.

Mr. McNeill, as already stated, did not, in his address on Tuesday evening exaggerate the importance of the work done by the women at the fair. Neither did he emphasize too strongly the value of what was attempted in the department allotted to the children, and the need of applying the idea behind that attempt to our whole educational system.

In this department were submitted collections of wild flowers, leaves, weeds, insects, and native woods, the collections having been made by pupils in the different school sections. First honors were won by Kinsale school section, the section in which President Mowbray of the Fair Association lives. The pressed leaves, flowers, etc., in this section covered a space on the wall probably twenty feet long by twelve feet wide. The mechanical part of the work was beautifully executed, and the only criticism that even such a keen critic as Dr. Fletcher had to make was based on the failure to arrange several specimens in proper order, so that they could be conveniently filed for reference. The insect collection sent by Dunbarton school, had, the doctor said, "been beautifully preserved, and showed great taste. The woods exhibited by the children of Kinsale," he added, "had also been exceedingly well prepared for display."

In the Brooklin school exhibit—a smaller collection of pressed plants, flowers, etc.—the work was exceptionally well done, while in the collection of cut flowers shown by Whitevale section excellent taste was shown in the grouping. Moreover, it is to the everlasting credit of Whitevale school that the flowers shown from there were grown in the school grounds. Children who are brought into daily contact with such surroundings as must be found in a school where those flowers are produced are not likely to go far wrong.

The work of the children formed one of the most interesting departments of the whole fair; it was an object lesson to the older visitors present, and the work of making the collection must have created a desire for research and investigation in those making it which will tell in after life.

All Mr. McNeill said as to the necessity of grafting on our Public School system the idea behind the exhibit made by the children at the Whitby Model Fair was more than justified by the exhibit made and the lesson conveyed thereby. It is impossible to over-estimate the value of the training which is given by making children thoroughly familiar with the objects with which they are coming into daily contact.

Practical Value of Children's Work.

Dr. Fletcher, in the course of his address, referred to the practical value of the lessons which are conveyed by the preparation of an exhibit such as that made by the children of Kinsale school.

"Canada," said he, "has a wonderful wealth in timber, but still it is seldom you can find anyone in a Canadian audience who can name a dozen different trees. The maple is one of our commonest trees, and yet how few people know that we have at least a dozen different varieties of maples. Some trees have double the value of other trees in the same family, and we should know which to plant in order to obtain the best results. We have for example, two white oaks of great difference in point of value. The walnut, a most valuable tree, will grow in almost any part of the Province, and it grows so quickly that a man may plant it in the hope of reaping a crop in his own lifetime. There is a difference even in the value of the ashes of different trees. How many, again, can name a dozen different birds, and yet of sparrows alone we have forty different kinds.

"And so it is all along the line. Take the potato rot for example. People know that in a wet season such as this the potatoes are peculiarly liable to loss from this cause. Why then did they not take steps to prevent such loss this year ? Experiments both at Ottawa and Guelph have shown the rot can be prevented. The disease reaches the root through the leaf, and by spraying the leaves in time the evil can be prevented from developing and the roots are thus protected against rot. Not only is rot prevented, but loss in yield is also avoided. Why ? Because the longer the leaves remain on the greater the development of the crop."

ILLUSTRATION PLOTS.

Important Lessons Drawn from the Work of the Experimental Union.

Thousands of progressive farmers, living in different parts of the Province, know the practical value of the experimental plots on the farm connected with the Ontario Agricultural College. There is scarcely a township in the older parts of the Province in which there is not at least one farmer who has seen these plots and heard Director Zavitz of the Experimental Union, explain the characteristics of the different varieties of grain, corn, roots, grasses, etc., grown there.

Well, there were plots at Whitby fair grounds also, though these plots were not so numerous as those at Guelph. They differed in another particular also—they were not intended as experiments in testing new varieties. They were rather for the purpose of illustrating the respective merits of varieties already tested. They were not even intended to serve as models of production. The ground on which the different crops were grown was in sod until last spring, and consequently could not be put in condition to give the best results. All that was aimed at was to show different varieties of crops—grown under precisely the same conditions—so that those seeing the same might be able to judge of the respective merits of each. As Arthur Johnston said, the work was, under the circumstances, extremely well done, and as Mr. Zavitz added, it was a credit to Mr. Sterricker, who had charge of the work.

On Wednesday and Thursday, these plots were made the subject of informal talks by Director Zavitz, with the growing crops as texts. Taking the different varieties of corn first, he said :

Corn.

"The Mastodon Dent is one of the best large varieties of corn we have. For this section, however, it is plenty late enough even for the silo. The Wisconsin Earliest White Dent, also shown here, has proved itself, during five years' experiments, one of the best yielders in grain we have. In total yield — grain and fodder combined — it is about two tons per acre behind the Mastodon Dent. In a favorable season and on a lightish soil, the Mastodon would probably mature sufficiently in this locality for ensilage purposes, but the Wisconsin would be a sure crop for the silo about here and on lightish soil, in a favorable season, might even ripen its grain. The North Star Yellow Dent is, however, one of the best varieties for the production of grain in this neighborhood that can be secured. In our experimental work, carried on throughout the Province generally—it has given ten bushels per

acre more than Compton's Early, which is the next biggest yielder. For this section I should say that Wisconsin White Dent would be the most suitable variety for the silo, while the North Star Yellow Dent would be the best for the production of grain. The latter will ripen its cobs a good deal north of this. I believe it could ripen as far north as Parry Sound district."

Roots.

The object lesson in mangels and sugar beets was one of the best of the lot. Dealing with the plot before him, and with the result of the experimental work carried on throughout the whole Province, Mr. Zavitz said: "The Long Red, on the average, has given us 25 tons per acre, and Carter's Champion Yellow Intermediate, 23 1-2 tons. The Long Red which we have selected is the best of 21 strains of that family. Carter's Champion is an excellent variety, and has yielded ahead of 17 strains of the Long Red. The largest yield which we have obtained in Globe mangels was 17 tons per acre, and the largest yield in sugar beets, 19 tons."

Asked as to the feeding values of the several varieties, Mr. Zavitz said: "Prof. Day carried on experiments for two years for the purpose of settling this point. He used White Silesian sugar beets and the Long Red mangel. These experiments were carried on for two or three months in each of the two winters during which the work was carried on. It was found that almost the same amount of milk was produced from the cows fed on Long Red mangels as from the beets. What little difference there was seemed to be rather in favor of the Long Red mangel. Still, for general purposes, I like the Champion Yellow Intermediate. It is a nice, smooth mangel, easy to harvest, and a good keeper."

Millets.

Japanese millets and the common Hungarian grass were grown side by side, the Japanese varieties being far ahead of the old Hungarian.

"You all know the old Hungarian," said Mr. Zavitz, in dealing with this subject, "and you now see for yourselves how the Japanese varieties compare with it. What you see here is borne out by our co-operative experiments throughout the Province, where the Japanese Panicle has always given us the best yield."

Asked as to the feeding value of the millets, Mr. Zavitz said he did not think it would be well to use them alone. They should be made merely a part of the fodder ration—mixed with timothy or clover. "Cattle will, however," he said, "eat the hay even if the grain has been ripened."

Grasses.

Dealing with the grass plots, Mr. Zavitz said that the tall oat grass had given the largest yield per acre in hay in co-operative experiments throughout Ontario with different growers. He put its feeding value at about the same as timothy. "It is," he said, "not quite as rich as meadow fescue, and meadow fescue would rank between timothy and tall oat in point of yield. For a hay crop, in our short rotation at the College farm, we sow a mixture of seven pounds of common red clover, three pounds of alsike, and four pounds of timothy per acre."

PLAN OF ILLUSTRATION PLOTS ON WHITBY FAIR GROUNDS.—1902.

FODDER, FORAGE, AND PASTURE CROPS.	Common Vetches.	Hairy Vetches.	VETCHES.
	Grass Peas.	Compton's Early.	CORN.
	Early Yellow Soy Beans.	North Star Yellow Dent.	
	Medium Green Soy Beans.	Wisconsin Earliest White Dent.	
	Whip-poor-Will Cow Peas.	Mastodon Dent.	
	Dwarf Essex Rape.	Early Amber Sugar Cane.	SORGHUMS
	Thousand-headed Kale.	Millo Maize.	
SWEDISH TURNIPS	Kangaroo.	Kaffir.	
	Sutton's Magnum Bonum.	Hungarian.	MILLETS.
	Hartley's Bronze Top.	Japanese Barnyard	
FALL TURNIPS	Cow Horn.	Japanese Panicle.	
	Greystone	Tall Oat.	GRASSES.
KOHL RABI	Early White Vienna.	Tall Fescue.	
MANGOLDS	Evan's Improved Mammoth Sawlog.	Awnless Brome Grass.	
	Carter's Champion Yellow.	Orchard Grass.	
	Carter's Warden Yellow Globe.	Timothy.	
SUGAR BEETS	Kleinwanzlebener. (Planted early.)	Alsike.	CLOVERS.
	Kleinwanzlebener. (Planted in June.)	Common Red.	
	Kleinwanzlebener. (Planted in July.)	Mammoth Red.	
	New Danish Improved.	Lucerne.	

ROADWAY—20 rods long and 1 rod wide.

Plots are 2 rods by 1 rod.

Hairy Vetch.

Speaking of hairy vetch, of which a good deal has been heard of late, Mr. Zavitz said : " That is a most useful crop, either for hay or pasture. Of eighteen different crops experimented with, it has proved one of the best for pasturage. It will stand a lot of tramping without being killed out. We have pastured cows off and on on the vetch, and still had a good growth in the fall after the cattle had been removed. After five cuttings for hay taken off during this season.on the College farm, we still have a good mat of vigorous growth on the land this fall. In the experiments carried on throughout the Province hairy vetch has given an average yield of 9 1-2 tons of green crop per acre from one cutting. Of course, this crop here (for the reasons already stated) is nothing like as good as can be grown. At the College farm I have seen it up to my waist. It can be sown in the autumn, about the middle of August, and will come through the winter and give a good crop next season. One trouble is that the seed is so expensive, being difficult to produce. We have had about six or seven bushels to the acre at the College farm. Joseph Tweddle of Fruitland had nine bushels to the acre last year. He expected to produce 100 bushels this year, but he was disappointed in his crop, and he threshed 50 bushels only. Most of our seed comes from Germany, and costs about $5.50 per bushel."

Grass Peas and Weevil.

Then the Grass peas came under review. These peas, generally speaking, gave satisfactory results throughout the Province last year, but this season (owing to the excessive moisture) they have turned out very poorly so far as grain is concerned.

" One advantage of the Grass pea," said Mr. Zavitz, speaking in this connection, " is that it will give you a good hay even if it does not ripen the seed. Another advantage is that it is absolutely proof against the weevil."

This reference to the weevil brought up one of the most important questions in connection with farming to-day. This was the possibility of exterminating the weevil if farmers would but co-operate to this end.

" It has," said Mr. Zavitz, " been demonstrated that you can, by threshing your peas directly after harvest, destroy the weevil by treating the grain with carbon bi-sulphide. This material is a chemical, and will cost about 20c or 25c per pound, and one pound is sufficient for the treatment of fifteen bushels."

As previously explained in The Sun, the carbon bi-sulphide is placed in an open dish on top of a box or bin containing the peas. Over the whole a blanket or rubber is placed. The chemical evaporates, and, being heavier than air, penetrates to the bottom of the bin or box, and destroys the weevil.

" It is," said Prof. Fletcher, of the Dominion Experimental Farm, Ottawa, speaking of this matter at a public meeting held on Wednesday evening, "a disgrace to the farmers of Ontario that they have allowed themselves to be deprived of the benefit of growing one of the most profitable crops by an insect enemy that could be so easily exterminated. If the farmers of Ontario would co-operate in this matter they could completely destroy this particular enemy inside of two years. But the pea weevil is only one of the enemies that can be successfully combatted. One-tenth of all the crops that we produce are destroyed by insect enemies, and still there is knowledge available by which nine-tenths of that destruction might be prevented."

Speaking of the feeding value of the Grass pea, Mr. Zavitz said : " It is not well to use this as the whole of a grain ration. Mixed in the propor-

tion of about one-third to two-thirds of barley and oats, it would serve very much better."

A Valuable New Crop.

One of the most interesting of the plots was that given to the Soya, or Soja, bean—something for which we are indebted to the Japanese.

"There are," said Mr. Zavitz, "different varieties of this bean, and we have experimented with them all at the College. But most of the varieties are no use because they mature too late. As a result of our experiments, we have come to the conclusion that the Medium Green, which you see here, is the best for the production of fodder crop. This will come on early enough to serve either for dry fodder or as part of the material to put in a silo. I believe the proper place for this Medium Green Soya bean will be found in using it to mix with corn in the silo. It comes on at about the proper time for cutting with ensilage corn. It has given us a yield of about eight tons per acre. Mixed in the proportion of one load to two of corn, it will give just about a balanced ration. The Medium Green has done well in Guelph, in Middlesex County, and has, as you see, done well here. It should, I believe, be grown separately from the corn in order to secure the best results. The Early Yellow Soya bean is a much smaller plant, but it is the best variety we have found for the production of grain. The Early Yellow has given us about twenty-five bushels of grain per acre, and a grain which is richer in feeding value than any other which we can produce. It is in this respect about equal in quality with linseed meal."

A Talk on Rape.

"The Dwarf Essex has," said he, "given the best results in our general experimental work, and you see that the same variety shows the best crop here. In planting it should be sown so that it can be used before it is affected by lice. Sowing in the middle of June will give you a splendid fodder crop in the early part of September. It provides an excellent pasture for sheep, hogs, or steers. If you have more than you can use for pasturage you can cut it and pile it up in the field in the fall, and it will keep in feeding condition for at least two months."

Turnips and Kohl Rabi.

Turning to the turnip crop, Mr. Zavitz dealt first with the Cowhorn turnip. "That," he said, "is not a keeper, but a fall turnip. Among the fall turnips it has been found an excellent yielder, and the freest from rot of all the varieties we have tested. The kohl rabi, which we show here as well, makes a good sheep pasture, and the root is also suitable for table use, being preferable for this purpose to turnips.

Thos. Rennie, of the William Rennie seed house, was delighted with the work done on the experimental plots, and spoke most enthusiastically of the value, not only of this but of other departments of the fair as well.

"You have," he said, "started a ball rolling here, and no man knows where it will stop. These experimental plots furnish a practical demonstration of precisely the nature required. They show different varieties of the same sort of crop growing side by side, and are thus a practical illustration of what will be most profitable for the farmers in this locality to produce. You certainly have a clear conception of the idea of what a model fair should be, and that idea has been well worked out in these plots. You have given a demonstration from which even the managers of the Toronto Industrial may learn a valuable lesson."

DIFFERENT VARIETIES OF GRAIN IN THE EAR SHOWN SIDE BY SIDE.

But all the object lessons were not found in the plots. Director Zavitz had placed in the main building an equally instructive exhibit from the College farm. He had, for example, small vials containing specimens of commercial fertilizers, and other vials containing seeds of special interest, but not too well known, such as those of the Hairy Vetch, Mandscheuri and White Hulless barley.

There were also specimens of different grains in the ear, with the straw still attached. This was a peculiarly interesting exhibit, because the straw was cut so as to show the average length of the straw grown in each variety in experimental work, extending over a period of five years. In addition to this, there was attached to each sample a card stating the average yield of each variety over a period of five years. Thus, visitors were enabled (in fall wheat) to study the comparative straw and grain development of Dawson's Golden Chaff, Imperial Amber, Turkey Red, Michigan Amber, and Early Genesee Giant. The same was possible in the Siberian, Joanette, and Alaska oats.

To this Prof. Harcourt added a sugar beet exhibit. This exhibit included specimens of the typical sugar beet, beets improperly grown, and an illustration of the factory method of topping beets at the factory.

The Dominion Department of Agriculture, represented by Dr. Fletcher, performed an equally important duty in sending some 50 varieties of grasses, all properly labelled—an exceedingly useful object lesson indeed.

The same general idea was carried out even in the private grain exhibits. Exhibitors were required to place behind the bag containing the cleaned seed shown by them a sample of the same grain in the ear.

Altogether, it is safe to say that never before was there given, in such a short time, and in such limited space, so many ueful and practical lessons connected with the products of the soil.

CHICKENS WERE NOT OVERLOOKED.

The fact that poultry production is now considered a regular industry in connection with agriculture, was given full recognition at the Model. A. W. Foley, who has charge of the experiment fattening station at Bowmanville, had in the main building an exhibit consisting of a fattening crate, an incubator, a brooder, and specimen birds in Rocks, Wyandottes, and Buff Orpingtons.

Practical addresses were also given on the production and marketing of poultry and poultry production. The first of these talks was given by Superintendent Graham of the Poultry Department of the O.A.C.

"Only a few years ago," said Mr. Graham, "there was difficulty in marketing even the limited amount of poultry produced at that time. So recently as five years ago, when I first tried to sell high-class poultry in the Montreal market, I experienced difficulty in finding buyers. To-day it is all different. There is at the present time what is practically an unlimited market in Great Britain for everything we can produce in this line, and there is a rapidly growing market even in this country. At the present time I am flooded with more orders than I can fill. Three commission men in Montreal are wiring me almost daily for chickens, which I find it impossible to supply.

The Sort of Chick Needed.

"What the market calls for is a chicken which will show a plump carcass, weighing from four or five pounds when dressed. There is some difficulty in producing this sort of chicken, because our breeders for years past have been running the size craze to death. The result of this is that we have birds that are all legs and neck, when they have reached the weight required. The first lot of chickens I sent to Montreal this year would, if I had allowed them to come to full maturity, have given a splendidly finished bird, weighing about ten pounds. When I shipped them at four pounds weight, however, the reply came back that the color was all right, that the birds were fairly meaty, but the acknowledgment wound up with, 'O, my, look at the height of the breast bone and the length of the leg!' What we require to get back to is something of the same idea in poultry production that governs the producer of Shorthorn cattle. What we want is short, blocky body, the only difference between a Shorthorn steer and the table bird being that in the latter case the underline is of more importance than the upper line.

"How are we to know a good bird when we see him? Let me, in this connection, tell you what to avoid. If you find the head and bill long, the eyes sunken, and a long, narrow comb, you will in 99 cases out of 100 see these characteristics accompanied by a long, narrow body and long legs. On the contrary, a blocky, short head, beak of moderate length, and prominent eye will almost invariably be found united in a body which will give the sort of carcass that the market calls for. You also want a chicken that will stand straight on its legs. If you get one that is knock-kneed, the legs will come together in the feeding, and at the end of the three weeks' fattening period the bird will scarcely be able to stand at all.

Killing and Dressing.

"In preparing chickens for the market, it must be remembered that different markets call for different systems. One market will take a bird which has been bled with the knife, while another prefers to have birds with the neck broken. In the New England States what is required is a chicken which has been killed by bleeding; in Montreal some of the houses will take the chickens one way and some the other, the majority in that city now favoring the breaking of the neck. All the English buyers call for a chicken with the neck broken. One advantage of breaking the neck is that this system of killing is much cleaner. There is no blood spilled to get on the feathers or on the clothes. Furthermore, as there is no cutting of the flesh, the way is not opened for germs of putrefaction to get in and cause decay. The bird is thoroughly bled in either case. By breaking the neck the jugular veins are severed and the blood runs into the cavity formed just back of the head by the breaking. Before killing, the bird should be off food for thirty-six hours, and its water supply should be cut off for twenty-four hours. If the bird is killed shortly after feeding, the non-assimilated food will decay, and the process of decay will extend to the carcass and spoil the flesh."

Mr. Graham closed by giving a practical demonstration of killing by breaking the neck, and then immediately plucking the bird. A number, who could not well see what was done, for the crowd, thought the bird was not dead when plucking began, and that the plucking was, therefore, unnecessary cruelty. The fluttering that takes place after the neck is broken is not, however, an indication of pain; all suffering ends with the breaking of the neck.

There was a general discussion at the close of Mr. Graham's talk, this discussion being particularly in regard to breeds.

"Will not the Brahma," asked one, "give you a good sized bird ?"

"It certainly will," answered Mr. Graham, "but size is not what you want. Put two birds in the market together, one weighing eight pounds and the other five pounds, and the latter will easily bring 2c more a pound than the former. The reason is plain. The one can be sold for about 75c, while the other at the same price would cost nearly $1.25, and there are a good many more people who will buy a 75c bird, if of equal quality, than there are who will buy one costing $1.25. Furthermore, when you get up to the eight pound weight, you have something of equal size with a turkey hen, and when a turkey hen and a chicken are offered at the same price, ninety-nine people out of one hundred will take the turkey in prefernce. You must remember, too," continued Mr. Graham, "that the season within which turkeys can be bought is not confined to the fall of the year, as formerly. By means of the improvement in cold storage, poultry, after killing, can be kept for an almost unlimited time, awaiting a favorable market; and in the big cities of the continent you can now get turkeys the year round. As a matter of fact, Swift's, and the big Chicago packers, have nearly 50 per cent. of last year's turkey crop still on hand."

How to Get the Early Bird Which Will Bring the Big Price.

A. W. Foley, who, as stated, has charge of the fattening station at Bowmanville, of the Dominion Department of Agriculture, also talked of poultry as a money crop, his remarks being mainly confined to the matter of production. In discussing feeds, he said that blood meal was one of the best possible materials for the production of winter eggs. "It provides," he said, "the animal matter which the hen cannot at that season of the year obtain from the fields, as she can in summer. This, if bought in the commercial way, will cost about 3 1-2c per lb. It should be used very sparingly, at first in the proportion of about one to twenty pounds of other feed, and later on in the proportion of about one to sixteen. I rather prefer myself the ground meat scraps to the blood meal. People who live near a slaughter house, or farmers who slaughter a good deal of stock of their own, can provide this blood meal for themselves. When an animal is slaughtered, the coagulated blood may be taken up in a bag, and prepared for use by cooking. In cooking, place a few rough stones in the bottom of the pot, and partially fill the vessel with water. When the water has reached the boiling point put in the bag containing the blood. The stones in the pot will prevent the bag from adhering to the bottom of the vessel, and the hot water will soon completely cook the material. When dried after cooking it will be found pulverized, and is then ready for use in feeding.

"In the winter season, when the birds cannot obtain grit for themselves, they should be plentifully supplied with this material. Coal cinders, broken stone, or broken crockery will serve well for this purpose.

"The most profitable part of the poultry industry is the raising of early chickens. I have had no trouble in getting 14 1-2c a pound in June for chickens hatched in March and April. In order to obtain success in this line, however, care and intelligence are required. Eggs are expensive in March and April, and unless a large proportion of your eggs hatch, the loss is very considerable. In order to ensure a supply of fertile eggs, carefully watch the chickens (when first hatched, that you intend using for breeders later on. The chickens which show the most vigor, and most rapid development generally, should be saved for breeding stock. Care is also required in

the mating. In mating my own birds, I allow the hens (in early spring) to run out alone during the day, leaving the male birds in their company only a little while morning and evening. The males are thus fresh and vigorous for service. Care must also be taken of the eggs intended for early hatching, to see that they are not damaged by the surroundings. They should be removed from the place of production before the animal heat has left them. If they are left until cool, the ammonia from the surrounding atmosphere in the sheds will percolate through the shell and destroy the germ. If, with all this, care is taken to give the fowl plenty of exercise, you will have no difficulty in getting eggs that will hatch in March and April. I have had 96 per cent. of fertile eggs in those months, and have hatched 92 per cent. of the whole.

"In handling an incubator, if you are an amateur, do not leave your experimenting until the eggs are in the machine. Better run the machine for twenty-four or forty-eight hours before the eggs are put in, in order that you may learn all about the handling of it. I keep the temperature at about 102 1-2 degrees for the first week or ten days, and then keep it up to 103 degrees. I believe there is a decided advantage in cooling the eggs down to 80 or 85 degrees once a day.

Chickens Hatching Themselves.

This talk about cooling the eggs led to an interesting discussion as to just how far one may go in this direction without danger.

"One night," said Mr. Foley, "I forgot to attend to the lamp in my incubator, and the light was out for fourteen hours. At that time the eggs went down to 60 degrees, and still I had the best hatch from that batch that I ever had."

"I also had an experience of a similar nature," said Mrs. Sanford Brown of Whitby. "In one case a hen was off some eggs for two days. Then I put the hatch under another hen and brought out three out of five. Of course, that was in warm weather."

"I can tell of a stranger case," added Mr. Foley. "In this year's hatching I received some eggs from a farmer on Saturday, and set them on the following Monday night. At the end of the sixteenth day 60 per cent. of the eggs brought out chickens. The eggs had, of course, gone through part of the process of hatching before I received them, but while they were in my hands they were out of the incubator from Saturday morning until Monday night, and during part of that time the temperature went down to 60 degrees."

Mrs. Brown went Mr. Foley one better.

"I remember," she said, "going out into the bush one day and hearing some chickens cheep. I looked around, but could not see a hen. Finally I found a number of chickens scattered around under logs and elsewhere, but there was not a sign of either a shell or a hen in the neighborhood."

Mr. Foley was able to pretty nearly equal this experience.

"I had a hen," he said, "which left the nest at the eighteenth day, and still the seven out of ten eggs produced chickens. The temperature was about 85 to 90 degrees."

Caring for Chickens When Hatched.

"I do not," said Mr. Foley, "feed chickens until the fourth day after they are hatched. In fact, I know of some who have kept their chickens without food for a week, without loss. The chicks should not be given any food until the remainder of the yelk has been entirely absorbed. Care

should be taken not to give them too much water. I have known cases where chickens were left without water for the first six weeks. The first feed should always be of grit. After this give stale bread for the first three or four days, or even for a somewhat longer period. Follow this with cracked grain or millet seed. Animal food in some form should be given early. Blood meal or meat scraps will serve well for this purpose. Chickens should not be given much range for the first five or six weeks after hatching."

THE PACKING OF APPLES AND PEARS FOR EXPORT TRADE.

The fruit interest was not neglected. There was a demonstration of the packing of apples and pears in boxes by Mr. McNeill and Mr. G. H. Hadwen, the latter being secretary of the British Columbia Fruit-Growers' Association.

"California," said Mr. Hadwen, "produces a lot of apples, and these are all sold in the box packages. We in British Columbia, finding ourselves in competition with California, have been obliged to adopt the box as well. We find that the box form suits the purchaser better than the barrel. Frequently a buyer has to carry his purchase down cellar or up stairs, and he finds the small package much easier to handle than the larger one. I believe the box is the coming form of package for the domestic as well as the export trade."

Then Mr. Hadwen gave a practical demonstration in the wrapping of pears in paper and packing them in boxes. Each pear is laid on its side, one row being laid with the small end one way, and the next row reversed; in this way they fit in neatly together.

Progress is for the Young.

"Our hopes of progress," said Mr. McNeill, who followed, "rest on the young. Here in this country, where people have been selling apples for thirty or forty years, you frequently hear the statement that the box cannot be used for the packing of fruit. In the younger Province of the West it has been demonstrated that the box can be used. It is the same thing with young men. Men who have been using the barrel for thirty or forty years are hard to change; but we do hope to have some effect on the younger men who are coming to the front. In these counties east of Toronto you have more young orchards coming on than in any part of Ontario, and we hope to impress upon young men, who are planting these orchards, the advantage of using the most suitable form of package.

"California has already established a standard in boxes. The California standard as well known in the markets of Europe. We here should adopt that form, and then we will be selling in a standard manner, with an established reputation. Robert Hamilton, who had charge of the collection of the Canadian fruit for the Paris, Glasgow, Cork, and Wolverhampton Exhibitions, and who understands all about fruit shipping, in speaking of the packing of fruit, says that only sound fruit should be used to start with, and that a little excelsior or shredded wood should be used between the top of the package and the top layer of fruit. Another suggestion that he makes is that where apples are wrapped singly in paper they should be cooled before wrapping. The reason for this is that the wrapper excludes the air, and if the fruit is warm when wrapped it will be kept warm, and the process of ripening perhaps too much hastened,

while if it is cool at the start it will be kept cool, and thus preserved in good condition until its arrival at the place of sale. Another point, although a minor one, is the matter of nails. A rusty nail will hold better than one which is not rusty. You can rust the nails by soaking them for twenty-four hours in salt and water, and then exposing them to the air. In packing the apples put those of one size together. If you have fair sized apples alongside of very large apples, the former will look smaller than they really are by comparison.

"For extra choice fruit, there is nothing better than the Wilson case, a specimen of which I have here. This, as you see, contains six drawers each drawer being divided into compartments, like an egg-carrier. There are 24 of these compartments in the top drawer and 18 in others. Really choice Snow apples, put up in a box of this kind, will easily bring twice the price of an orange in Liverpool or New York at Thanksgiving time. The cost of the box is about 28c. It would take six of these cases to fill a barrel, and yet I have seen the contents of one of these cases sold, even in Toronto, in the last week in January, for $3. There is no reason why the Snows should not be kept in perfect condition even longer than that. By putting them in in cold storage, at a cost of 5c per box per month, you could hold Snows in perfect condition for six months."

"You can," said M. D. Williams of Bowmanville, "keep them in good condition by placing them in dry sand in the cellar. For two years past I have kept apples in this way in perfect condition until May or June."

Labeling Everything Canadian.

"The Fruit Marks Act requires," he said, "that the name and initials of the packer shall be placed upon each package of closed fruit intended for sale, and that it shall be branded with marks indicating the quality of fruit contained. In making your brand," he continued, "be sure that you have on the word 'Canadian,' and do not use that word on any package on which you would be ashamed to see your own name placed. What the Fruit Marks Act calls for, what the commercial interests of the country call for in this connection, is perfect honesty. No great commercial industry can be built up without that, and we need not expect any special exemption in favor of our apple export trade from a general principle which is applicable to all commercial undertakings. More than this is required, however. The uniformity which is essential to the building up of an export trade in butter is equally essential to the development of a great export trade in apples. Instead of a score of varieties in small lots, we must have few varieties in large lots. We hope to secure through the Act now in existence uniformity in packing and grading. In time, by means of public education, we hope to arrive at something like uniformity in varieties as well."

RIPENING HONEY.

R. F. Holtermann gave a short but exceedingly interesting talk on honey.

"One fault," said he, "of some of the honey shown at the fair was, that it was not ripe enough, not having been left long enough with the bees. In a damp season like this the honey is thinner than usual, and should be left longer with the bees than in an ordinary season. Honey should have a good body, a body that will show resistance when stirred with a spoon. Honey, even with a good body, will sometimes not have a good flavor, but thin honey never has a good flavor. Honey producers should be extremely careful to turn out the best product possible. What

they have to produce is steadily becoming more popular in the market, but consumption would increase much more rapidly if more care were taken in the preparation of that intended for market. The great majority of people think that any honey is honey, but as a matter of fact there is as much difference in quality in honey as there is in butter, and when people get a poor quality of honey it goes more slowly on the table than really good stock, and after having once used the poor stuff they are not apt to buy more later on."

In speaking of the color of honey, Mr. Holtermann said that, while dark honey is not so popular as bright honey, the food value of the dark is just as great as that of the bright.

LIVE STOCK EXHIBIT.

By G. E. Day, O.A.C., Guelph, Ont.

In the course of his address, in speaking of the live stock exhibits generally, Prof. Day said: "The whole exhibition, so far as the live stock is concerned, must have been an inspiration to every young man who has seen it. It has served, too, as an extremely valuable object lesson on the sort of animals the market calls for. This was to be expected in a county of which James Leask is a resident—the man who captures prizes not only here, but goes up to Guelph and takes everything in sight. It is a lamentable fact that we have not more men producing cattle of the same class. There are altogether too many animals of inferior quality being produced. Even in bacon hogs we are not making progress as fast as we should be making it. Old Country commission men tell us that we are in very serious danger of losing our entire bacon trade, because the Danes are outstripping us in the matter of quality. We cannot afford to sit still. Other nations are progressing, and if we rest on our oars we shall find ourselves left behind in the race."

THE WHITBY FAIR A SUCCESS.

The Whitby Model Fair, towards which so many eyes have been directed for some time, took place on Tuesday, Wednesday and Thursday of last week. There has been much speculation as to its fate, many prophesying that it was doomed to be a complete failure, while its promoters were none too sanguine in regard to its success. It has been evident to all that a departure from the old way was absolutely necessary, or the Whitby Fair and other such Fairs would be a thing of the past, consequently it was with uncertain step that the directors made in the new direction. It was decided that this year it should assume the form of an educational institution, and that the horse-race and the fakir should not be among its attractive features. As a result of this new departure, it may be said that the Whitby Model Fair has been a decided success. The results should prove to the directors the wisdom of the change, and it may safely be said that it has a new lease of life. We may hear some say that it was an exceedingly tame affair, but to some the only attractive feature about a fair is the horse-racing; to them everything else is not worth a moment's notice. There is something very fascinating and exciting about a horse-race, but there is always so much gambling and jockeyism associated with it, that it has been in late years simply a farce, and its elimination from the Fair was a wise step.

Practical Addresses.

An interesting and valuable feature this year was the practical and instructive addresses delivered on various topics by persons well capable of handling their respective subjects.

Prof. Dean, of Guelph, gave an interesting address on Tuesday evening on "A Pound of Butter," in which he strongly urged farmers to manufacture their butter in the same way as cheese is manufactured, that is in factories, for thereby they have a product uniform in quality, and, therefore, suitable for export. While farmers' wives did not make poor butter, no two made butter exactly alike, and, as a result, not suitable for export. This caused an over-production for the home market, and consequently a low price. Interesting addresses were also given by Prof. Zavitz, of Guelph, and Mr. G. C. Creelman, Superintendent of Farmers' Institutes. Another feature—one much appreciated by the ladies—were the addresses of Miss Agnes Smith, of Hamilton, on cooking and domestic science. She was engaged under the auspices of the Women's Institute, who had a large tent erected upon the grounds. The facilities provided for hearing her addresses were very defective, as it was impossible for many to hear her at one time. If this work is to be continued in the future, and it is to be hoped that it will be, better accommodation should be provided. The talk by Prof. Graham, O.A.C., Guelph, on poultry culture, the killing, plucking, dressing and packing of chickens, the demonstrations by an expert on the best method of grading and packing fruit, and the reasons given by the judges in awarding the prizes, are new departures that are sure to be productive of good results, and will be appreciated by those who go to the fairs that they may learn. One of the special features of the fair that drew much attention and excited much favorable comment was the experimental plots. These plots were sown with the seed of the leading varieties of farm crops, this seed being furnished by the Agricultural College, Guelph. These plots were an exhibition of farming conducted under scientific principles. It showed what a comparatively barren piece of land could produce when managed by a skilful hand, for one could hardly imagine that such magnificent crops could be produced from such soil.

The Educational Value.

So far as the exhibits were concerned, they were certainly of a high order, especially in farm stock was this the case. It can be safely affirmed that no other county in the Dominion could make such a showing. The exhibits in certain classes shown in the drill shed were not numerous, nor were they of a very high standard. The Public School exhibits were a credit to the various schools represented, and Pickering Township has a reason to be proud of the part she took, as the majority of the prizes awarded were captured by the schools of this township.

As a place of amusement, the Whitby Model Fair was a failure, but it was an undoubted success from an educational point of view, and, as such, far exceeded all former exhibitions.

This style of fair may not succeed in drawing the crowds, and the gate receipts may not be so large as in former years, but the different municipalities connected with the fair can conscientiously grant assistance when the work carried on is of such a laudable character. The directors and all those who helped to make it a success are to be congratulated on the results of their efforts.—The Pickering News.

OFFICIAL PROGRAMME OF THE WHITBY MODEL FAIR.

Preparation Day—Tuesday, Sept. 23rd.

All exhibits to be shown in the Main Building (including fruit, flowers, grain, vegetables, dairy produce, domestic manufactures, ladies' and children's work and fine arts (must be in place by 3 p.m. We advise all exhibitors to be on hand much earlier than that hour, as it is likely the building will be crowded, and those coming early will have a better chance to secure good accommodation and so display their exhibits to the best advantage.

Tuesday Evening, 8.00 p.m.—Public Meeting in Music Hall.

1. Address by the Chairman—Hon. John Dryden.
2. Address of Welcome—His Worship the Mayor of Whitby.
3. Music.
4. Address—Prof. H. H. Dean, O.A.C., Guelph.
5. Address—A. McNeill, Ottawa.
6. Music.
7. Address—Miss Agnes Smith.
8. Address—Prof. C. A. Zavitz, O.A.C., Guelph.
9. Music.
10. Address—G. C. Creelman, Toronto.

Citizens' Day—Wednesday, Sept. 24th.

Gates open at 8 a.m. All entries in poultry and live stock must be on the grounds by 10 a.m., and remain until the close of the exhibition.

10.00 to 12.00 a.m.—Judging commenced in all departments except dairy, cattle and light horses. Judges of live stock, where required, will give their reasons for prizes awarded.

11.00 a.m.—Demonstration in apple packing and grading near experimental plots.

12.00 a.m.—Feeding chickens in fattening crates.

1.00 p.m.—Judging of live stock continued.

2.00 p.m.—Poultry. Prof. W. R. Graham, O.A.C., Guelph, will deliver an address on Poultry Culture, using live birds to illustrate his remarks. Mr. Graham will be pleased to answer any questions in reference to the raising of farm poultry.

2.00 to 4.00 p.m.—Cooking Demonstration. Miss Agnes Smith, graduate of the School of Domestic Science, Hamilton, will give a practical demonstration in the preparation of foods. A special tent will be erected for this purpose, under the direct supervision of the South Ontario Women's Institute. All ladies are invited to make this tent headquarters while visiting the Fair.

3.00 p.m.—Experimental Plot. Prof. C. A. Zavitz, O.A.C., Guelph, will give a talk on grains, grasses and forage plants for Ontario, using the experimental plots on the grounds to illustrate his address.

4.00 p.m.—Apple Packing and Grading. Demonstrations will be given near the experimental plots.

Wednesday Evening, 8.00 p.m.—Public Meeting in Music Hall.

1. Address, by the Chairman, Dr. J. J. Hare, Whitby.
2. Address, by Prof. G. E. Day, O.A.C., Guelph.
3. Music.
4. Address, Prof. James Fletcher, Experimental Farm, Ottawa.
5. Address, Dr. James Mills, O.A.C., Guelph.
6. Music.
7. Short addresses by the judges.

Farmers' Day, Thursday, Sept. 25th.—Gates Open at 8.00 a.m.

9.00 a.m.—Judging concluded in live stock classes begun on Wednesday.

10.00 a.m.—Judging light horses and dairy cattle, judges giving their reasons for awards when requested.

11.00 a.m.—Lecture on poultry raising and feeding, by J. T. Foley, Bowmanville.

12.00 a.m.—Feeding chickens in fattening crates.

1.00 p.m.—Judging light horses and dairy cattle concluded.

2.00 to 3.00 p.m.—Parade of live stock, followed by lectures on live stock at the ring side, by Prof G. E Day.

3.00 to 4.00 p.m.—Lecture on experimental work at experimental plots, by Prof. C. A. Zavitz, O.A.C., Guelph.

2.30 to 5.00 p.m.—Women's Institute meeting. Miss Agnes Smith, Hamilton, will give a practical demonstration of cooking, accompanied by a talk on Domestic Science work.

4.00 to 4 30 p.m.—Apple packing and grading demonstration will be given near experimental plots.

APPENDIX.

THE FIRST AGRICULTURAL SOCIETIES.

By C. C. James, Deputy Minister of Agriculture for Ontario.

As the summer passes away and the fall begins to turn the greens to brown and yellow and red a change comes over the mass of humanity and the question passes from one to another, "What about the crops?" The Agricultural Departments begin to gather in their reports by the thousands; the newspapers send abroad their keen, observant young men; the millers, the dealers and the speculators set their private wires humming with notes of enquiry, and the talk of wheat and corn and clover, of butter and cheese and beef, becomes universal. If the crops are good, a smile of satisfaction gradually broadens out across the great face of humanity and the farmers feel that then, if at no other time, their importance in the Commonwealth is appreciated. The Fall Fair, the Agricultural Exhibition, the County Show, as it is variously called, now comes as a natural sequence to a bountiful harvest.

Whence came the farmers' fair? We turn back to our boyhood days and it was there, perhaps the greatest event of the year in our somewhat limited field of excitement. We ask our fathers and they tell us that it was the great rural event of their boyhood days. Was it always in existence? If we turn to our school histories we shall not find it mentioned there—in fact, we shall find little there that tells us of the development of our greatest of industries. We may have to look for some records of its early days in out-of-the-way places. We find some old works dealing with the great fairs of Europe and we think we can detect in them some conditions and events that may have suggested some of the amusements of our more modern fairs. And then we turn to some of the old philosophical societies of Europe and in them we think we can detect traces of the educational features of our agricultural societies. It is hard to run great movements back to their origins, but a combination of the prehistoric religious festival or fair and the comprehensive philosophical society appear to be in some degree a satisfactory answer to the question as to the source or origin of our more modern agricultural society.

The visitor in London will find much to interest him in the stories still clinging to old Smithfield (smooth field) and St. Bartholomew's, and perhaps in the working out of those stories he may find some facts that will help him to an understanding of the peculiar ways of our modern fairs.

One ardent historian has traced these European fairs back to the Green Isle. In the reign of Queen Anne the holding of pilgrimages to holy wells was forbidden and a fine of twenty pounds was inflicted upon any one who dared to build a booth or sell ale or other commodities at such pilgrimages. Mitchell, in his "History of Ireland," adds this comment:

"Thus in Ireland were made penal and suppressed those patron fairs which indeed had been the origin of the most ancient and celebrated fairs of Europe as those of Lyons, Frankfort, Leipzig and many others."

The first purpose of the agricultural societies of a century ago was to hold meetings for instruction, the awarding of prizes in competition soon followed, and the revival of the old-time amusement features of the early fairs seems now to have brought about a condition that needs careful supervision and wise direction into better lines.

I shall not undertake here to outline the beginning of the Agricultural Societies in England, Scotland and Ireland, but shall refer to the early work in the United States, Nova Scotia, New Brunswick, Quebec and Ontario.

UNITED STATES.

"On the 24th day of August, 1785, the Society for the Promotion of Agriculture was founded in Charleston, South Carolina, and was incorporated December 19, 1795 (see Statutes of South Carolina, vol. VIII., page 187, for charter, also Ramsay's History of South Carolina, vol. II., page 224). The objects of this society, announced in the act of incorporation, were to promote the interests of agriculture, to institute a farm for experiments, to import and circulate foreign articles that are suitable to the climate of Carolina, and to direct the attention of agriculturists of the State to useful objects.' This was the beginning of the present State Agricultural Society of South Carolina, which still holds the old charter. So far as I have learned, this was the first real agricultural society founded in this country. The records of the society were lost during the war, and its history, so far as I know, has never been written.

The Philadelphia Society for the Promotion of Agriculture was instituted in the same year, and is still in existence under its original name. In one of its earliest publications, if not the first, a small pamphlet containing a summary of the constitution, it is stated that one of its objects was to promote the establishment of other agricultural societies in the principal places in the country.

The New York Society for the Promotion of Agricultural Arts and Manufactures was formally organized February 26, 1791, and in 1792 published its first volume of transactions, a small quarto. Several volumes appeared, which were so much sought after that a second edition was published in 1801, in the more convenient octavo form, which the numerous official agricultural reports of this country have since followed. This society went through various vicissitudes. Successive charters expired by limitation and new societies were organized, which were essentially the old ones under new names, coming down to the present day, and now represented by the New York State Agricultural Society, the changes forming a very instructive history, and illustrating both the struggles and the influence of such organizations.

The Massachusetts Society for Promoting Agriculture was incorporated in 1792. Its premiums and its numerous publications did much to foster agriculture in New England and to disseminate agricultural information throughout the States. It is still in active existence under its old name, and is doing good work.

The Society for Promoting Agriculture in the State of Connecticut was organized August 12th, 1794, and published its first volume of transactions, a small quarto pamphlet, in 1802. After existing as a State society for twenty-four years, at the time of a general formation of county societies in Connecticut, in 1818, this was changed by an act of the Legislature to the County Society of New Haven, which is still in active operation."—(U. S. Census, 1880, vol. III., p. 137.)

The above summary by Prof. W. H. Brewer contains at least one important omission. This I am able to supply from the interesting "Agricultural Bibliography of the State of Maine," by Mr. Samuel L. Boardman, of Augusta, Me., who states in the introduction that the third Agricultural Society in the United States was organized at Hallowell, Maine, in 1787. The Kenebec Agricultural Society, through the efforts of Dr. Benjamin Vaughan and his brother, Mr. Charles Vaughan, members of this society, also sent communications to the Massachusetts Society. As to the objects and work of these early societies, Mr. Boardman gives the following:—(page 1)

"Their objects were at first confined to the diffusion of knowledge pertaining to rural economy through the publication of 'memoirs' in 'papers'; the offering of premiums for the education of subjects upon which information was desired; the adoption of approved systems and methods of European culture suited to the condition of this country, as well as for the improvement of certain articles of domestic manufacture. The holding of fairs or 'cattle shows' was no part of the objects of these early societies, this feature not having been introduced till October, 1810, when the Berkshire Agricultural Society, under the direction of Mr. Elkanah Watson, held a cattle show at Pittsfield, Mass., the first that ever took place in the United States."

A further reference might be made to Connecticut. The Hon. E. H. Hyde delivered an address at the World's Congress Auxiliary at Chicago in 1893 on "Some Things That Connecticut Has Done for Agriculture." It is printed in the Connecticut State Agricultural Report for that year, pp. 97-104. We quote the following:—

"The Connecticut Society for the Promotion of Agriculture was organized in August, 1794, and its publication began soon after. It is still in existence as one of our County Societies. It was the fifth agricultural society organized in the country."

"The Connecticut Academy of Arts and Sciences, located at New Haven, was organized in 1799. It, too, lent its aid to agriculture, and is still in active existence."

It may here be mentioned that Connecticut is one of the pioneers in America, if not the pioneer, in agricultural education and the scientific investigation of agriculture. In 1846 Mr. John P. Norton was appointed Professor of Agriculture and Agricultural Chemistry at Yale University, New Haven, and in 1875 an agricultural experiment station was established.

The earliest distinctively agricultural literature of the country (so far as is known to me) is by Jared Eliot of Killingworth (New Clinton), Connecticut. His "Essays on Husbandry" began in 1747-8 and continued for many years.

Prof. S. W. Johnson of Connecticut published his famous book, "How Crops Grow," in 1868. Profs. Brewer and Silliman worked in the same State, and a Yale graduate of 1792, Eli Whitney, invented the cotton gin, in 1793.

President Clapp of Yale, prior to 1754, had made an improvement on Tull's English wheat drill, and one of his successors, President Stiles, is credited with being the pioneer in silk culture in New England. Agriculture in America owes a deep debt to the little State of Connecticut.

From the various sources I make the following list of dates of formation of the first Agricultural Societies in the United States: South Carolina, 1785; Pennsylvania, 1785; Maine, 1787; New York, 1791; Massachusetts, 1792; Connecticut, 1794.

Nova Scotia.

Judge Haliburton, in his Historical and Statistical Account of Nova Scotia, Vol. I., p. 149, states that "Soon after the landing of the English one hundred head of horned cattle and some sheep were brought to them by land, from a French settlement at Pesiquid (Windsor), a town almost forty-five miles from Halifax."

This note introduces the live rival elements in the early settlement of the Province, one English-speaking, on the south, or Halifax, side, and the Acadian French on the north, or Bay of Fundy, side. A word or two as to

these two settlements may be in place as introduction to what follows. There had been French settlements on the northern shores ever since De Monts had sailed into the Bay of Fundy and a settlement had been made at Port Royal (Annapolis) in 1604. From this point the French settlers pushed up the beautiful and fertile valley of the Annapolis River, and when the fort surrendered to the British in 1710, we are told that there were 2,500 Acadian French in the adjoining district. Little settlements grew up around the Bay of Minas, and quite a flourishing agricultural industry was carried on around Grand Pre, Canard, Habitant, Gaspereau, Pesiquid and Cobequid before the English settlers near Halifax had become established.

In the month of May, 1749, there sailed from England a fleet of thirteen transports, under the protection of the sloop-of-war Sphinx. The passenger roll numbered 2,576, and the expedition was in charge of the Hon. Edward Cornwallis and his suite. There were merchants, doctors, clergymen, lawyers, schoolmasters, artisans and soldiers in the company. They sailed away to the west to found the city of Halifax, under Cornwallis as the new Governor of the Colony. In June and July the new settlements began and it made rapid progress. We may conclude that many of the settlers turned their attention to the cultivation of the soil. Most of them, however, were evidently not brought up to agriculture, and the development of that industry, which was so necessary to the welfare of the colony, must have been slow at first. A newspaper was started in 1752 by printers from Boston. On March 23rd, 1752, John Bushell published the first number of The Halifax Gazette, the first newspaper in what is now the Dominion of Canada. Mr. J. J. Stewart, in Vol. VI. of the Collections of the N. S. Historical Society (1888) has given us a review of this pioneer of the Canadian press. He quotes from the third issue that on April 8th, 1752, in Council holden at Halifax, it was enacted that bounties should be given for the encouragement of the fisheries, building of vessels and other useful improvements within said Province.

Among these bounties were the following for encouraging the growing of crops:

"On all lands granted by government, etc., that shall be, in 12 months from date of grant, fenced with a substantial fence, not less than four feet high, and be cleared with all underwood and brush, and shall have all the trees thereon felled (excepting 10 to each acre), and shall be sowed with English hayseed or any kind of English grain, or with hemp or flax seed, the sum of 20s. per acre.

"The sum 2s. per cwt. upon every cwt. of English hay which shall, within 18 months from the date hereof, be produced on any of the aforementioned lands.

"2s. per bushel on wheat, barley or rye, and 1s. per bushel on oats.

"3d. per lb. on every lb. of merchantable hemp, which shall be 'bright, well cured and water rotted, 4 feet in length, and fit for use.'

"3d. per lb. on flax, ditto, ditto.

"The said bounties of hay, grain, hemp and flax, to be paid on certificates to the Treasurer of the Province, the applicants making oath that it is the bona fide growth of their own lands. Signed by Benj. Green, Secretary."—(N. S. Historical Society Collections, Vol. VI., 1888.)

Sir Adams G. Archibald, in a paper prepared in 1886 for the Nova Scotia Historical Society, on "The Expulsion of the Acadians," says:

"The farms of the Acadian settlers consisted almost wholly of lands reclaimed from the tide. The earliest French colonists who settled permanently in the country were those who came out with De Razilly and Charnisay between 1633 and 1638. They consisted in all of about sixty

families. From these the Acadians are descended. The mother country of the immigrants was La Rochelle, and its neighborhood, a tract on the west coast of France, bordering on the Bay of Biscay, where the cultivated land is largely marsh, which has been reclaimed from the tide by banks or dykes which shut out the sea. The newcomers found here a country like their own, and resorted to the same expedients for obtaining the best possible land, with the least possible toil. They seem scarcely to have touched the forest. In 1734, when their numbers had greatly increased, and when these people had been over 100 years in possession of the lands, dating from the arrival of the colonists under De Razilly and Charnisay, they had not, according to a report made by the British Governor of that day, cleared in all over 300 acres of forest land. This is probably an under estimate. It allows only one acre or thereabouts to 15 of the population. When the English, some twenty years later on, entered into possession of the French farms they found a larger clearance of forest land, though even then the proportion it bore to the dyke land was hardly as one to three.

"The Acadians produced on their farms all the necessaries of life. Their clothes were of wool or flax, of their own raising. Flocks and herds they had in abundance. They raised a plentiful supply of poultry. They had saw mills and grist mills. They lived in wooden houses. They had none of the luxuries of life, but they had all that to a rude, unlettered and ignorant people could be considered as necessaries. They married young and had large families. Their numbers would have increased even more largely than they did had it not been for the troubles arising from their political position. But for these the Acadians would have been, not only much more numerous than they were, but would also have been a happy and contented, though an ignorant and superstitious, peasantry."—(Collections of the N. S. Historical Society, Vol. V., 1887.)

In 1755 came the expulsion of the Acadians, and soon after the rich meadows and the bountiful orchards passed into the hands of English speaking settlers, and, as we shall see, the successors of these Acadia French farmers thirty-four years later had so increased and prospered as to establish an agricultural society which still exists, and is now the oldest in all Canada.

There are a few traces or records of fairs of various kinds being held in the early days of British occupation. For instance, mention may be made of an advertisement in The Nova Scotia Gazette of 1773 (first issued March 23rd, 1752), referring to "races" to take place at "the Windsor Fair" on June 15th and 16th, one plate of twenty pounds and one of ten pounds being offered for "native-bred horses."

This Windsor Fair appears to have been pretty well established by 1773, in fact to have already reached its eighth anniversary, if we may accept the following copy of the first notice, which I take from an editorial that appeared some years ago in The Mail of Toronto. I may say that I have made search for the source of this editorial, but so far without result.

"Whereas it is thought that the establishing of a Fair at Windsor will be of great utility to the Province of Nova Scotia, a number of the gentlemen of Halifax, being desirous of promoting every measure that can conduce to the public good, have entered into a subscription for premiums and rewards, and will cause the following to be given on Tuesday, the 21st of May, 1765, the first day of the Fair."

The editorial then summarizes the catalogue of prizes as follows:—"For a person who should bring the greatest number of cattle the award was three yards of English blue superfine broadcloth and a silver medal.

For horses the prize was a saddle, a bridle and a medal. For sheep the prize was a pair of shears and a medal. Other prizes were a butter churn and a medal for the best cow, a whip and a pair of spurs for the best horse, and six yards of ribbon and a medal for the best twelve pounds of butter or of cheese. Nor, if quadrupeds were judged and rewarded, were bipeds forgotten. The best wrestler was offered a lace hat and a pair of spurs, while the next best was to get a pair of shoes and buckles, and the third best a pair of buckskin gloves."

This was 133 years ago, and as far as our present records go, the honor belongs to Windsor, N.S., in County of Hants, of holding the pioneer agricultural fair in Canada.

When we come to 1789 we find more definite information as to agricultural organizations. In Murdock's History of Nova Scotia, Vol. III., p. 75, we find the following:

"In November (1789) a society for promoting agriculture in the Province of Nova Scotia was formed: Hon. R. Bulkely, President; Hon. Henry Newton, Vice-President; Mr. Lawrence Hartshorne, Treasurer; Mr. James Clarke, Secretary. Some little good was effected by the early effort, but it was not till a quarter of a century later that a powerful impulse was given to the improvement of agriculture by the writings and example of the late John Young, of Willow Park, who signed 'Agricola,' the father of the present Chief Justice."

On page 162 of his collected letters, however, "Agricola" makes the following statement:

"I have this week (Nov. 19, 1818,) a letter from King's County, with only the initials of the writer's name, furnishing me with the first volume of the proceedings and publications of the Halifax Agricultural Society, which was founded in 1786, languished about three years, and died a natural death, because it was placed on no permanent footing by the Legislature."

A History of Halifax City, left by Dr. Aikins, is printed in Vol. VIII. of the Collections of the Nova Scotia Historical Society, 1892-4. On p. 96 it is stated that "the first agricultural society was formed in Halifax in the year 1789." On page 103 the historian further states, under the year 1791, that "a gold medal and ten guineas was offered for the best essay on the natural history of the Hessian fly, and the method of stopping its progress in the wheat crop. A volume of the society's proceedings was this year published at Halifax by John Howe." This is undoubtedly the volume referred to by Young.

It would appear, therefore, that the date 1786 on page 162 of Agricola's book is a misprint for 1789, especially as on page 125 he states that "the first agricultural society in Nova Scotia was instituted on the 10th of December, 1789, and soon afterwards the inhabitants of the County of Hants formed themselves into a similar association, with a view to co-operate with the capital in promoting agriculture and rural economy. Much about the same period, in 1790, a society, likewise was founded at St. John, New Brunswick, under the patronage of Lieutenant-Governor Carleton, and from the only volume that was ever published here on rural affairs, everything betokened the establishment of an energetic and active system of improvements."

A letter addressed to "Agricola" from Horton, under date of January 13th, 1819, by the officers, directors and committee of the King's County Agricultural Society contains this piece of information:

"This society has been organized for 30 years and upwards, and was a branch of a society formed in Halifax at the same time under the patronage

of His Excellency Governor Parr; and we are extremely grateful that His Excellency Lord Dalhousie and many of his Majesty's Council have patronized and formed a Central Society at Halifax, the result of which will no doubt be of much public good."

It appears therefore that at the close of 1789 a Provincial or central association was formed at Halifax, and also at least two branches, one in King's County and the other in Hants.

The King's County Society is worthy of more extended notice. It is today the oldest agricultural society in Canada. In October, 1893, the venerable Secretary of the society, Mr. George Hamilton, of Grand Pre, sent the writer some notes and reports. It was organized on December 10th, 1789, just at or about the time of the formation of the Central Society at Halifax. It is now therefore 113 years old, and it has had a continued existence. The following were the officers of the King's County Agricultural Society, first elected on December 10th, 1789: Jonathan Crane, President; John Thomas Hill, Vice-President; James N. Shannon, Treasurer; James Fullerton, Secretary; David Denison, Steward. These names were furnished in December, 1893, by Mr. George Hamilton, then Secretary, who also stated that the membership at the time was 107.

The proceedings of the society from the beginning are now in the hands of the Secretary. They should be printed.

The progress of agricultural organization was slow until 1818, when the first of the celebrated series of letters signed by "Agricola" appeared in The Acadian Recorder, Halifax (July 15, 1818). The result of these letters was organization in various parts of the Province and the giving of a new impetus to the industry. The Earl of Dalhousie, then Governor of Nova Scotia, called a meeting at Freeman's Hall, Halifax, on December 15th, 1818, to consider the advisability of forming a central society. The suggestion was carried out and the Provincial Agricultural Society was formed, with the Earl of Dalhousie as President, Chief Justice Haliburton as Vice-President, and Mr. John Young ("Agricola") as Secretary. The Legislature voted £1,500 to assist in the work, of which £500 was divided among the fourteen branch societies. It may be worth recording here the names of the principal members. Besides the three officers just mentioned, the following were named as directors:

Directors: Hon. M. Wallace, Hon. B. Halliburton, Hon. James Stewart, Messrs. S. B. Robie, S. G. W. Archibald, Wm. Lawson, H. H. Cogswell, Rev. Dr. Inglis, Rev. B. G. Gray, L. Hartshorne, R. Fairbanks, Peter McNab, John Pryor, John Prescott, Samuel Albro, Thos. Boggs, M. Richardson, Wm. Pryor, John Stayner, and S. Lydiard.

Committee of Management: Hon. Judge Haliburton, Hon. T. N. Jeffery, Messrs. S. B. Robie, S. G. W. Archibald, and H. H. Cogswell.

New Brunswick.

My search for information as to the early agricultural societies in New Brunswick has resulted in gathering a few diconnected notes, which may serve to stimulate some student of that Province to make a more connected record of this work.

As stated before, Lieutenant-Governor Carleton founded a society at St. John, N.B., about 1790.

Vol. I. of the Dominion Shorthorn Herd Book contains the following note in a sketch of the history of this breed of cattle in Canada:

"In 1825 or 1826 the New Brunswick Board of Agriculture, through the Speaker of the House of Assembly of that Province, imported four bulls,

all recorded in the first volume of the English Herd Book. Thus New Brunswick has the honor of being the first Province to introduce imported stock."

From the proceedings of the St. John Agricultural Society for the year 1849 we get the following:

"In accordance with the report of last year, the directors petitioned the Legislature to appoint a Central Board or Provincial Society, and to introduce agricultural education, but nothing was done. This arose chiefly from the opposition of the farmers in the Legislature, they being decidedly opposed to any additional expenditure for the improvement of agriculture. Three-fourths of them actually voted against the invitation to Prof. Johnston."

Prof. Johnston was on the staff of the University of Durham, England, and Lecturer to the Agricultural Society of Scotland. He had been invited to visit the United States. The directors of the St. John Society brought the matter to the attention of the Governor, and an invitation was extended to him to visit New Brunswick. This he did in 1849, and the result was a "Report on the Agricultural Capabilities of the Province of New Brunswick," by J. F. W. Johnston, F.R.S., etc., Fredericton, 1850, pp. 262.

Robert Jardine was President and Douglas B. Stevens, Secretary, in the year 1849. The annual Fair and Cattle Show had been held on September 27th. "Four samples of wheat were shown; one weighed 64 pounds, and two over 60 pounds. The oats weighed 46, 44 and 42 pounds per bushel. The turnips, carrots, mangel wurtzels and potatoes were very superior and pronounced by the judges as good as could be raised in any country. There is but little butter and no cheese made in this country."

In that year one branch of the St. John County Society had been formed at Loch Lomon.

A Provincial exhibition was held in Fredericton in October, 1852, carried on by the "New Brunswick Society for the Encouragement of Agriculture, Home Manufactures and Commerce Throughout the Province." J. Robb was Secretary. Prof. Robb had been interested in the York Central Agricultural Society which was "re-organized in 1847." He was Professor of Chemistry and Natural History, King's College, Fredericton.

The annual report of the Restigouche Agricultural Society, submitted January 6th, 1857, is numbered the 17th. Dr. Julius L. Inches was Secretary of the Kingsclear Agricultural Society in 1869.

Quebec.

April 6th, 1789, should be a red-letter day in the annals of Quebec. Lord Dorchester was Governor. He sent out invitations for a gathering on that day, to be held at the old Chateau St. Louis. The purpose was to organize an agricultural society for Quebec. We take the following from the record of Sir J. M. Lemoine, who makes his quotations from The Quebec Gazette of April 23rd, 1789:

"On the 6th of April the rank and fashion, nobility and clergy of all denominations, as well as commoners, crowded at the Chateau St. Louis to enter their names as subscribers to the Quebec Agricultural Society, warmly patronized by his Excellency Lord Dorchester. Hon. Hugh Findlay, Deputy Postmaster-General, was chosen Secretary."

Then follows the list:

Rev. Philip Tosey, Military Chaplain.
T. Monk, Attorney-General.
G. E. Taschereau.
Peter Stewart.
Malcolm Fraser.
J. B. Descheneaux.
John Lees.
John Renaud.

John Young.
Mathew Lymburner.
John Blackwood.
M. L. Germain, fils.
A. Panet.
M. Pierre Florence, Riviere Ouelle.
T. Arthur Coffin.
Capt. Charles St. Ours.
Aug. Clapion, Sup. Jesuites.
A. Hubert, Cure de Quebec.
Juchereau Duchesnay.
L. de Salaberry.
P. Panet, P. C.
M. Grave, Superieur Seminaire.
John Craigie.
Berthelot D'Artigny.
Perrault l'Aine.
P. L. Panet.
A. Gaspe, St. Jean Port Joly.
M. Ob. Aylwin.
The Canadian Bishop.
M. Bailly, Coadjutor.
T. Mervin Nooth, Dr.
Henry Motz, Dr.
Jenkins Williams.
Isaac Ogden, Judge of Admiralty.
Messire Panet, Cure of Riviere Ouelle.
Sir Thomas Mills.
Francois Dambourges.
Capt. Fraser, 34th Regt.
Kenelm Chandler.
J. T. Cugnet.
J. F. Cugnet.
George Allsop.
Robert Lester.
Alex. Davidson.
Chief Justice Wm. Smith.
Hon. Hugh Finlay.
Hon. Thomas Dunn.
Hon. Edward Harrison.
Hon. John Collins.
Hon. Adam Mabane.
Hon. J. G. C. DeLery.
Hon. George Pownall.
Hon. Henry Caldwell.
Hon. Wm. Grant.
Hon. Francois Baby.
Hon. Samuel Holland.
Hon. George Davidson.
Hon. Charles De Lanaudiere.
Hon. Le Compte Dupre.
Major Mathews.
Capt. Rotson.

(See Picturesque Quebec, by J. M. Le Moine, Montreal, 1882, p. 80; also "Monographies et Esquisses," by J. M. Le Moine, Quebec, 1885, pp. 20-24.)

What a representative gathering! The Governor and leading members of his Council, the principal members of the Bench, the chief officers of the Churches, the leaders of Trade and Commerce, the Seigniors, one at least, who had fought with Wolfe on the Plains of Abraham (Samuel Holland). French Quebec had become British, and both nationalities united harmoniously to advance the great resources of the country. As Le Moine says, this list of honored agriculturists alone would furnish material for a thick quarto of chronicles of olden times.

From the above it will be seen that the Quebec Society antedates the first Halifax Society and the King's and Hants County branches by seven months. But it is possible that there was another society in Canada even earlier than 1789. Mr. W. M. Ramsay, of Montreal, some time ago gave me the following quotation from The Montreal Gazette of December, 1788. In an account of a dinner given at Frank's Tavern in Montreal occurs the following:

"Many loyal and spirited toasts and sentiments were drunk, among which were the following: 'Success to the New Agriculture Society.'" From this it would seem that the Montreal Society was formed in the latter part of 1788, and the Quebec Society in the early part of 1789. Mr. John Horn, of Montreal, in response to an enquiry of mine in The Star of Montreal, gave this information:

"Sir John Johnson was Vice-President of the Montreal branch of the society. The following eight English and eight Canadian gentlemen were first directors of the Montreal Society, and approved by Lord Dorchester: Picotte de Bellestre, Joseph de Longueuil, Paul Roch de Saint Ours, Saint George Dupre Brassier, Hutel de Rouville, Chartier de Lotbiniere, Pierre Grey, John Fraser, David Alexander Grant, Jacob Jordan, Charles Blake, Joseph Frobisher, Edward W. Gray, Isaac W. Clark, John Burke. John McKindlay was Secretary and Treasurer."

Before me is a small pamphlet of 56 pages, bearing the following title in French, "Papers and Letters on Agriculture, recommended to the atten-

tion of the Canadian Cultivators by the Society of Agriculture in Canada." Printed in 1789, reprinted in 1882 by Firmin H. Proulx of The Gazette des Campagnes. The aims and objects of the society are given in the introduction. Then follows the list of officers for 1789, as follows:

Lord Dorchester..... .....Patron and President
Lieutenant-Governor Brigadier-General Hope.....Vice-President
M. Findlay..... .....Secretary
John Lees..... .....Treasurer

Directors.

Geo. Davison.
A. J. Duchesnay,
Henry Caldwell,
Le Compe Dupre,
Thomas Scott,
A. Berthalot,
Hugh Findlay,
Rev. M. Bedard,
G. E. Taschereau,
Dr. M. Nooth,
J. M. de Salaberry,
Kenelm Chandler,
Louis Duniere,
David Lynd,
Charles Delanaudiere,
Rev. M. Toohey.

The equal division of the sixteen directors will be noted, eight being French-speaking and eight English. The date is given, February 22nd, 1789, and the annual meeting was fixed for April 6th. The list of members follows. The directors met on March 31st, and April 4th drew up the resolutions for "the Quebec Branch of the Society of Agriculture," which were submitted to the general society at the general meeting held at the Chateau St. Louis on April 6th. The remaining pages of the report are devoted to reports and letters upon the following subjects: the prevention of rust in wheat; the use of gypsum as a fertilizer; the growing of hemp.

There was a Horticultural Society in Montreal in 1812 and 1821. This may have been the continuation of a branch of the old society of 1788. The Quebec Society also was in existence in 1820 and in 1832, for Adam Ferguson, in his book, "Notes of Tours in 1831 and 1833," gives in an appendix the prize list of the fair held by the Agricultural Society of Quebec in the Upper Town Market Place, Quebec, on April 18th, 1832. In this prize list reference is made to a pamphlet on the manner of cultivating and preparing flax and hemp, published in 1820, by order of and at the expense of the Quebec Agricultural Society. In 1832 Lord Aylmer was given as the patron, and F. X. Vaillancourt as Assistant Secretary. It would be interesting and worth while for some one having access to the newspaper files of Quebec and Montreal to trace the progress and history of these two societies of Montreal and Quebec. Another link in the chain is to be found in the title page of a book published at Montreal in 1835, as follows: "A Treatise on the Theory and Practice of Agriculture," by Wm. Evans, Secretary of the Montreal Agricultural Society. In the introduction occurs these words, "several years of the latter period (17 years) he has had the honor to be Secretary to the District and County of Montreal Agricultural Society."

Ontario.*

Fort Niagara fell into the hands of the British on July 26th, 1759, the day following the siege of Quebec. The Treaty of Paris in 1763 confirmed the British in the possession of all Canada and the dependencies. Fort Niagara stood on the east bank of the Niagara River, at its entrance into

*Most of this paper on Agricultural Societies in Ontario is reprinted from The Farming World, Sept. 29, 1902.

Lake Ontario, and, until the close of the Revolutionary war, it and Detroit were the two centres of British power in the west. In 1775 war broke out between the colonies and the mother country, and Fort Niagara at once became the protection of the Loyalists of Western New York. It was their City of Refuge. The refugees fled to the Fort and sought protection, which was gladly granted by Col. de Peyster, who was in command. The destitute women and children were provided with shelter of a temporary nature, but the question of food became more serious because there was no cultivated ground of any extent, and fish and game alone were not to be had in sufficient quantity. The Loyalists did not settle down to a satisfied occupation of the land, as they hoped to return to their own homes on the successful issue of the war. But such was not to be the case. The independence of the United States was acknowledged in 1783.

The Treaty of Peace placed Fort Niagara within the limits of the United States, and the migration of the loyalists began. There were up to this time but few settlers on the western or Canadian side. Lieutenant-Colonel E. Cruickshank, in his "History of Butler's Rangers," page 110, says that in 1782

"An official survey of the 25th August (1782) showed that there were 16 families settled, numbering 68 persons. They had cleared 236 acres, and had raised during the year 206 bushels of wheat, 46 of oats, 926 of Indian corn, and 630 of potatoes. They owned 49 horses, 42 cows, 30 sheep, and 103 hogs."

William Kirby, in his "Annals of Niagara," 1896 (pp. 65 to 69), gives an account of the moving across the river and the beginning of the settlement around the little village that bore the names successively of Butlersburg, West Niagara, Newark and Niagara. "An old winter quarter for Government sailors on the lake," Navy Hall by name, became the Government headquarters, streets were laid out, log houses quickly built, and the hundreds of settlers coming in week by week allotted their 200 acres each as fast as the surveyors could locate their claims. Stores and taverns were soon started, and in the first year a grist mill was erected by Capt. David Servos. The settlement grew rapidly, but a terrible setback occurred in 1787-8—"The Hungry Year"—when drouth destroyed their crops and reduced the settlers to starvation point. The year 1792 brought Lt.-Col. John Graves Simcoe to Niagara as the new Governor of the newly-created Province of Upper Canada, and this brings us to the story of the first Agricultural Society of the Province.

The Board of Agriculture of Upper Canada was organized in 1846, and in October of that year held its first Provincial Exhibition in the City of Toronto, utilizing for the purpose the former residence of the Lieutenant-Governor, which stood on King street, on the site of the present Governor's residence. After ten years' work, the board published Volume I. of The Journal and Transactions of the Board of Agriculture of Upper Canada. This somewhat scarce volume contains a large amount of historical matter relating to the agriculture of this Province. On page 4 we find the following:

"At an early date in the history of the Province, patriotic persons, in imitation of similar institutions in older countries, exerted themselves successfully in the object of establishing local Agricultural Societies. The First Provincial Parliament enactment in aid of such organizations was passed in the year 1830. Societies had existed, however, got up by individual effort, in some of the original district divisions of the Province, some years prior to that date. The board has not at present in its possession

any documents from which to compile a history of the early operations of such societies, but it is believed that one was established in the home district (now the Counties of York, Ontario, Peel and Simcoe) as early as the year 1825, and one also in the Newcastle district (now the Counties of Hastings, Prince Edward, Frontenac, Lennox and Addington) each respectively, at or about the same time. Societies may also have existed in other districts at as early a date, but at present such cannot be positively stated as the fact."

Mr. George Buckland was Secretary of the board, and, as editor of the volume, he was doubtless the writer of the paragraph quoted. He was not a native of Canada, but we may fairly assume that he gave all the information then available in regard to the beginning of our Agricultural Societies. Later students have added to this brief statement.

Dr. William Canniff in 1869 published his "Settlement of Upper Canada," that has been a source of supply for so many writers of historical papers. In this work he makes free use of the memoirs of Col. Clarke, of Dalhousie, the manuscript of which is now in the possession of the Parliamentary Library at Ottawa. Dr. Canniff, on page 580, quotes Col. Clarke as follows:

"I have a perfect remembrance of the first Agricultural Society patronized by Governor Simcoe, who subscribed his ten guineas a year cheerfully. My father was a member, and the monthly dinners were given by the members during the season, with the great silver snuff-box ornamented with the horn of plenty on its lid."

This silver snuff-box handed from host to host, to be filled for the next monthly dinner, would be a precious historical treasure, but it has gone alas! with most of the other belongings of this pioneer society. This item carries us back to the days of Simcoe, and locates the pioneer society at Niagara in close touch with the first Legislature of the Province.

Desiring to know more about the society, I made enquiries of Miss Janet Carnochan, the energetic and enthusiastic President of the Niagara Historical Society, and she procured a fuller extract from Col. Clarke's diary, by the kind permission of his son, Dr. Clarke. It might be mentioned that Col. Clarke's father went to Fort Niagara in 1789.

"The first Agricultural Society was patronized by Col. Simcoe, who subscribed ten guineas, 1793. My father was a member. I remember the monthly dinners given by the members, and the great silver snuff-box, ornamented with the horn of plenty on its lid. I wonder what has become of that box; it most deservedly ought to be kept among the archives of Canada West. It always remained with the housekeeper who had to supply the next monthly dinner to the Agricultural Society. It was the property of the President pro tem. for the year, and at the annual meeting, when a new one was chosen, it passed into his hands. It was a fine piece of workmanship, and I trust it will yet turn up and be handed down to the present society, that it may remain an heirloom to tell posterity at what an early age the progress of agriculture was followed up and brought to its present high state of perfection."

Mr. William Kirby in his "Annals of Niagara" (1896) p. 114, refers to this society as follows:

"In 1793 the Governor was active in the formation of an Agricultural Association, to the funds of which he subscribed ten guineas yearly. The object was good and no doubt useful in encouraging the improvement of land cultivation and of stock, but no record is found of their proceedings or mention made of exhibitions held, though, doubtless, such there were on a small scale, for the settlers were as yet too much engaged in the arduous

work of clearing the forest to have time to attend to higher farming. But one thing the members of the association did, no doubt satisfactorily. Their rules provided for a monthly meeting to be held and a dinner to be partaken of—a convivial one, of course—and at which the talk of the members would not be wholly of oxen. This agricultural dinner was an interesting monthly event, which was kept up during Simcoe's administration at Newark."

I propose now to show that this date, 1793, is one year too late.

Sir David William Smith, one of the members for Kent in the first Legislature, 1792-96, resided at Niagara, or Newark, being the Deputy Surveyor-General of the Province. A large number of his papers are to be found in the Toronto Public Library, and among them is a copy of a list made out by himself of all the public offices held by himself, and therein appears the following:

Member of First Canadian Parliament, 27th August, 1792.

Vice-President of Agricultural Society, 27th October, 1792.

These two entries fix the dates of the first election held in this Province and of the organization of the first Agricultural Society. The first session of the Legislature was held from the 17th of September to the 15th of October. So we find that the organization of the Agricultural Society took place a few days after the Legislature was adjourned. The Lieutenant-Governor, its patron and originator, was probably its President. That the society was in operation early in 1793 I have corroborative evidence as follows: The Upper Canada Gazette in its issue of Thursday, July 4th, 1793, has this item of local news:

"On Saturday last the Agricultural Society of this Province dined together at Freemasons' Hall. Several gentlemen were invited, which, with the members of this laudable institution assembled, formed a very numerous party. The utmost cheerfulness and conviviality prevailed on this occasion."

The host of the evening doubtless had the snuff-box well filled, but whether it alone was the promoter of conviviality The Gazette does not inform us.

Mr. John Ross Robertson in his "History of Freemasonry in Canada" informs us that this hall was the first built especially for Masonic purposes, that the upper story was used for Masonic meetings, and the lower for public gatherings, such as that of the monthly meeting of the Agricultural Society, and for conferences between the Lieutenant-Governor and the Indians. References found elsewhere indicate that the books of the society were kept in the office of Deputy Surveyor-General Smith.

Having settled the date and place of this pioneer society, and the source whence it sprang, the question might be asked, what did the society accomplish? Did it do anything beyond meeting monthly to talk, eat, drink and take snuff? The records of the society have disappeared, and we would be left in the dark were it not for the fortunate discovery of the old record book of the Niagara Public Library by Miss Carnochan, who read a paper on the subject before the Canadian Institute in 1895. The following extracts are taken therefrom:

"In the old record book of the Niagara Library, dating from 1800-1820, which contains a list of the proprietors, 41 in number at first, who paid four dollars each year, and afterwards those who joined, paying in some cases ten dollars to entitle them to membership, besides a yearly fee. There is a reference to an early Agricultural Society, which must have had a valuable library, as in 1805 fifty volumes belonging to it became the property

of the Niagara Library, and the arrears of certain members of the library were remitted, as they were also members of the Agricultural Society. In the list of late members of the library several are given who came in this way. The list of fifty books, with prices, can be found in the catalogue. It might be an interesting inquiry now to see if any trace of these books could be found. When the town was burnt, in 1813, it is certain that many of the books were saved, as the record of books given out gives the number of many in the catalogue, although others are mentioned as being replaced, and the prices given. In January, 1805, occurs this entry:

"Resolved that the books mentioned in the catalogue from 348 to 397 be received from the Agricultural Society at the annexed prices, and that in lieu of them the arrears of Robert Ker, which is £1.4, be remitted to them.

"Robert Addison, 8s.

"George Forsyth, 8s.

"Colin McNab, £2 0s.

"Robert Hamilton, 8s.

"And that a share in the library be given to William Dickson, John Muirhead, Thomas Butler, John Symington, Joseph Edwards, at £2 8s. each, all these sums amounting to £16.8." At a contingent meeting of the trustees of the library, 12th November, 1805, John McNab was admitted as a member as one of the agricultural gentlemen, and Ralph Clench. In August, 1806, resolved that Jacob A. Ball and Louis Clement be admitted to a share in right of their fathers as members of the Agricultural Society, those gentlemen having already purchased shares, and that Jane Crooks, eldest daughter of the late Francis Crooks, be admitted to a share in right of her father as a member of the Agricultural Society. Thus history repeats itself. As the daughters of Zelopehad demanded and obtained their share of land, so Miss Crooks now demands a right to all the benefits of the library. Here is the list of books from the Agricultural Society, with prices:

"'348 to 361, Young's Agriculturist, £10.

"'62 to 366, Museum Rusticus, £3:4:0.

"'367-8, Young's Tour in Ireland, £1:80.

"'369-374, Wright's Husbandry, £3:12.

"'375-6, Marshall's Midland County, £1:8:0.

"'377 to 378, Adam's Agriculturist, £1:8:0.

"'379 to 381, Douglas' Agriculturist (3 Vol.), £2:0:0.

"'382-3, Dickson's Husbandry, £1:8:0.

"'384, Hart's Husbandry, £1:2:0.

"'385-6, Anderson's Agriculturist, £1:8:0.

"'387, Gentleman Farmer, £0:14:0.

"'388 to 392, Bath Papers, £3:10:0.

"'393-4, Dickson's Agriculturist, £1:4:0.

"'395, Dublin Society, £0:6:0.

"'396, Small and Barron, £0:9:0.

"'397, Hume on Agriculture, £0:6:0. Making £32:7:0, a very respectable sum for an Agricultural Society to spend for book in those early days.

"The Niagara Library, numbering 1,000 volumes at one time, came into the hands of Andrew Heron, to whom a large sum was owing, as he had a lending literary and book-store here."

With this long extract we must close our record of this pioneer society, that began in 1792, and in 1805 became merged in the Public Library; we close because we have exhausted the material at present available. It is no unworthy record that Ontario was but little behind Quebec, Nova Scotia

and the older settled neighboring States in organizing for agricultural improvement.

SIMCOE-SINCLAIR-WASHINGTON.

The following article was contributed to The Niagara Times by Mr. Wm. Kirby, the veteran author of "Annals of Niagara," "The Golden Dog," etc. It brings together in a strange manner Lieutenant-Governor Simcoe, Sir John Sinclair and President George Washington. This forms an interesting addition to the preceding sketch of the Niagara Agricultural Society:

"Mrs. Daniel Servos, of Niagara, found lately, in the private drawer of an ancient desk, that had belonged to Captain Daniel Servos, a United Empire Loyalist, and a distinguished officer of Butler's Rangers throughout the American Revolutionary War, an autograph letter of General Washington, written in the year 1792, addressed to Sir John Sinclair, Baronet, Whitehall, London.

"The letter is in reply to one on the subject of agriculture in America. It is not in itself of much importance, but the strangeness of it is how a letter of Gen. Washington, written to Sir John Sinclair, came into the possession of an ardent loyalist like Captain Servos, a man who had neither love nor respect for Washington, and which has lain in his desk for over a hundred years.

"The letter is clear and legible as on the day it was written. The family crest of Washington is printed upon the sheet, a shield, with device of stars and stripes, which the Congress of the United States adopted as the flag of their confederation. A reasonable explanation may be conjectured, however.

"In the year 1792 Governor Simcoe arrived in Niagara to organize the Province of Upper Canada, the first Parliament of which was opened there on the 17th of September, 1792. Simcoe's heart was full of zeal for the welfare of the new country entrusted to his hands. It was at that time an almost unbroken forest, just beginning to show spots of clearing, where the axes of the United Empire Loyalists were opening up the first fields in the great country they have bequeathed to us.

"Amongst the earliest undertakings of Governor Simcoe to promote the welfare of Upper Canada was the formation of an Agricultural Society at Niagara, composed of the leading men of the settlement. He subscribed liberally towards it himself, as did the others, among them Captain Servos, who was a skillful agriculturist, and a great man of business, as well as a loyal and gallant soldier.

"It is exceedingly probable that Simcoe, before he left England, consulted Sir John Sinclair on agricultural matters in Canada. Sir John was the founder of the Scottish Board of Agriculture, and the leading authority in Britain on that subject. He was in correspondence with Washington, and a friend of Simcoe, and as such forwarded Washington's letter to the Governor. Captain Servos was an officer of the Niagara Agricultural Society, and as such Washington's letter came into his hands.

"The Agricultural Society at Niagara was kept up with liberality and zeal. It met once every month with a dinner and much conviviality, as was the fashion of the period. That and the Masonic lodge were the two institutions in the town, and the only ones in Upper Canada at that time.

"I may mention here that among the papers in the old desk was found a large formal certificate given by the Masonic Lodge, Niagara, No. A. L. 5784, a lodge composed largely of officers of the 8th, or King's Regiment, then in garrison at Fort Niagara, and showing that on the 7th of May, A.

D., 1784, Daniel Servos was given the degree of Past Master Mason, of the Ancient and Honorable craft."

The following is a copy of the letter of Washington referred to:

Philadelphia, Oct. 20, 1792.

Sir John Sinclair, Baronet, Whitehall, London:

Sir,—I have received your letter of the 18th of May, enclosing the pamphlets and paper which you had the goodness to send me.

While I beg your acceptance of my acknowledgment for the polite mark of attention in transmitting these things to me. I flatter myself you will be assured that I consider the subject therein recommended as highly important to the society, whose best interests I hope will be promoted by a proper investigation of them, and the happiness of mankind advanced hereby.

I have to regret that the duties of my public station do not allow me to pay that attention to agriculture, and the objects attached to it (which have ever been my favorite pursuit) that I could wish, but I will put your queries respecting sheep into the hands of such gentlemen as I think most likely to attend to them and answer them satisfactorily.

I must, however, observe that no important information on the subject can be expected from this country, where we have been so little in the habit of attending either to the breed or improvement of our stock.

With great respect and esteem, I have the honor to be, sir, your most obedient servant,

George Washington.

FIRST LEGISLATIVE RECOGNITION OF AGRICULTURAL SOCIETIES.

By an Act passed in 1830, the Agricultural Societies were recognized for the first time. Under this Act (11 Geo. IV., Chap. 10) it was provided that when an Agricultural Society was organized in any district for the purpose of importing valuable live stock, grain, grass seed, useful implements, or whatever else might conduce to the improvement of Agriculture, the Government might grant two hundred pounds to assist, provided the society raised fifty pounds. Herewith we produce an account of the origination of the Home District Society, organized at Toronto (York) in 1830:

Home District Agricultural Society,
Home District, Upper Canada,
York, May 30th, 1830.

Pursuant to notice, a public meeting was holden at the Court House, for the purpose of forming an Agricultural Society. The Sheriff in the chair.

The Sheriff stated the objects of the meeting, whereupon it was resolved:

(1) That a society be now formed to be called The Home District Agricultural Society.

(2) That an annual subscription of five shillings constitute a member.

(3) That the business of the society be conducted by a President, twelve directors, a Secretary and a Treasurer.

(4) That there be four general meetings of the society in each year, and that the days of the meetings be the same as those upon which the General Quarter Sessions for the District are held.

(5) That the Hon. George Crookshanks be President, and the Hon. William Allan, the Hon. Peter Robinson, Alexander Wood, John Elmsley, D'Arcy Boulton, Jr., E. G. O'Brien, J. W. Gamble, C. C. Small, Robert Stanton, Richard Gapper, James Fitzgibbon, and R. G. Anderson be Directors; and John Elmsley, Secretary; W. B. Jarvis, Treasurer, until the first general quarterly meeting.

(6) That the Directors shall name a committee, from among themselves, to prepare the draft of a constitution for the society, to be submitted to the first general quarterly meeting.

(7) That subscription list be now opened, and that the Directors be requested to solicit county members to procure subscribers, and to request their attendance at the first quarterly meeting on the 6th July next, when the draft of the constitution is to be reported.

(8) That the first Directors continue in office till the first meeting, when a new election shall take place.

(9) That the foregoing resolution be published.

W. B. JARVIS, Chairman.
J. ELMSLEY, Secretary.

Here follows a list of sixty-one subscribers and a subscription of £51:10 currency.

The meeting then adjourned till July 6th.

The next meeting was held in the Grand Jury room, when by-laws, 17 in number, were adopted, and signed by Peter Robinson, Chairman; J. Elmsley, Secretary; W. B. Jarvis, Treasurer.

It was then ordered that a petition be presented to His Excellency the Lieutenant-Governor, praying that a Parliamentary grant of £100 be now granted to the society.

The first work done by the society when fully organized was to purchase the following seeds, to be ready for spring sowing:

One cask of barley, one of beer, or bigg, one of potato oats, one of Dalhousie or Lothian oats, one of Angus or Ayre, one bushel of clover seed, one of lucerne, one of sanfoin, twenty pounds of ruta baga or sweeds, twenty pounds of globe turnip seed, white or black. In addition, to come by way of Montreal next year: One cask of red English wheat, one of white wheat, and one of several sorts; also the following implements: A drill barrow for turnips, a double mould board plough, a horse hoeing plough, a book of patterns of farming utensils, not very expensive, say £1, £2:10 or £3.

Three prizes were also given for ploughmen, as follows: £3, £2, £1. The Exhibition was held in York Market Square at 1 p.m., Monday, October 4. The plowing match, to be held on D'Arcy Boulton's, Jr., farm near York, at 10 p.m., Tuesday, October 5th.

The competitors were as follows:

Joseph Harrison, Canadian; R. C. Gapper, by his Englishman (Yorkshire), Richard Sellers; James Hogg, by his man Alexander Gibb, a Scotchman; Hugall, by his Yorkshireman, George Gowland; D'Arcy Boulton, by his Englishman, David Lawton.

The judges were as follows: Walter Dalzel, Jacob Holbrook, Kennedy.

The first prize was awarded to John Hogg, Scotchman; the second to Richard Gapper, Yorkshireman; the third to Joseph Harrison, Canadian; Lawton and Hugall standing next.

The next plowing match was held on Smith's farm, over the Don. John Grantham won the first prize, Alexander Gibb the second, John Torrence the third, and John Lawrie the fourth.

John Mans obtained the first prize for an imported horse, £4; Joseph Bloor received the second prize, $20. (Most likely old Grey Messenger.)

The next object of the society worth recording was the determination to import four bulls, and Colonel Edward W. Thompson was selected for the purpose, and he purchased in New York State the following: Prince, Young Albion, Patroon and Putnam. The four bulls were afterwards sold

by the society as follows: Prince, to George D. Wills; Young Albion, to P. McVane; Patroon, to J. Sanderson; and Putnam, to R. L. Denison.

The Society fell into the hands of Colonel Thompson and Sheriff Jarvis, who acted turn about as President and Vice-President, and William Aikenson, Treasurer, and George D. Wells, Secretary. They held office for many year, with great credit to themselves and advantage to the society, and, as a matter of history, the great Provincial Agricultural Association and Board of Agriculture sprang out of this early effort of a few of our wise fathers.

Presidents—

Hon. George Crookshank, May, 1830.
Hon. Peter Robinson, July, 1830.
Alexander Wood, October, 1831.
Hon. John Elmsley, July, 1832.
Hon. John Elmsley, July, 1833.
Wm. C. Jarvis, July, 1834.
Wm. Botsford Jarvis, July, 1835.
Ed. W. Thomson, February, 1836.

FIRST PROVINCIAL EXHIBITION.

As stated in the previous article, the Act of 1830 made provision for the organization of District Societies. These had grown to such an extent that in 1846 provision was made for the organization of a Provincial Board of Agriculture, and one of its special duties was the holding of a Provincial Fair or Exhibition. The first was held at Toronto. The intention had been to hold it at the Exhibition Grounds, near Caer Howell, but as the buildings were not ready in time the exhibition took place in the old residence of the Lieutenant-Governor, that stood at the corner of King and Simcoe streets, on the site now occupied by the present residence of the Lieutenant-Governor. The Toronto Horticultural Society had been holding its annual exhibitions in this building, which was then unoccupied. A picture of this building, "Elmsley House," accompanies this article. The following note in regard to the exhibition is taken from The Herald of October 19th, 1846:

"The Grand Provincial Agricultural Association, which offers five pounds premium to the best pig, and five shillings for the best oil painting, comes off at the Government House grounds on Wednesday next, when we hope to see, if not exactly a live lion stuffed with straw, at least something almost as marvellous."

The seeds and grain, the fruit and the ladies' work were exhibited in the building, the agricultural implements were in the enclosed yard, and the cattle, horses and sheep in the adjacent grounds. The implements and machinery included 1 stumping machine, 2 or 3 kinds of horse rakes, a turnip cutter, 2 barrow drills, 4 kinds of straw cutters, a self-acting gate.

Needle work consisted of two pieces, "David Playing Before Saul" and "Joseph's Dream."

A banquet was held on the evening of the first day. President E. W. Thompson occupied the chair. Mayor Boulton, Chief Justice Robinson, Hon. Adam Ferguson, Hon. Robert Baldwin, T. H. Price and Rev. Egerton Ryerson were among those present.

The Mirror gave this rather unflattering report of the speeches made at the banquet: "We must say that a more vapid display of unmeaning and inappropriate bottle froth never before met our eyes. For, if we except John W. Gamble, Hon. Robert Baldwin, and W. H. Merritt, there were not ten words of common sense uttered by the whole company."

At 2 p.m. of the second day Hon. Adam Ferguson addressed the crowd from the verandah, and E. W. Thompson announced the prize-winners.

	£	s.	d.
The premiums paid	220	5	0
Books for premiums	66	7	6
Total expenditure	380		

The receipts were from members' fees, donations, gate receipts and subscriptions by eight district and county societies.

The following report of the fair was written for the compiler of these notes by Mr. Walter Riddell, Sr., of Cobourg. Mr. Riddell was born at Westerkirk, Dunfriesshire, Scotland, in February, 1814, came to Northumberland County, Ontario, in 1833, and now lives in Cobourg, in his 89th year. The sketch is interesting as being written by probably the only person now living who attended the first Provincial Exhibition 56 years ago. It might be mentioned that Mr. Riddell has for this entire period kept up a close connection with our agricultural societies, having only recently resigned the position of Treasurer of the West Northumberland Agricultural Society. Mrs. Riddell also is living in her 85th year. The venerable and much respected couple have been married over 65 years.

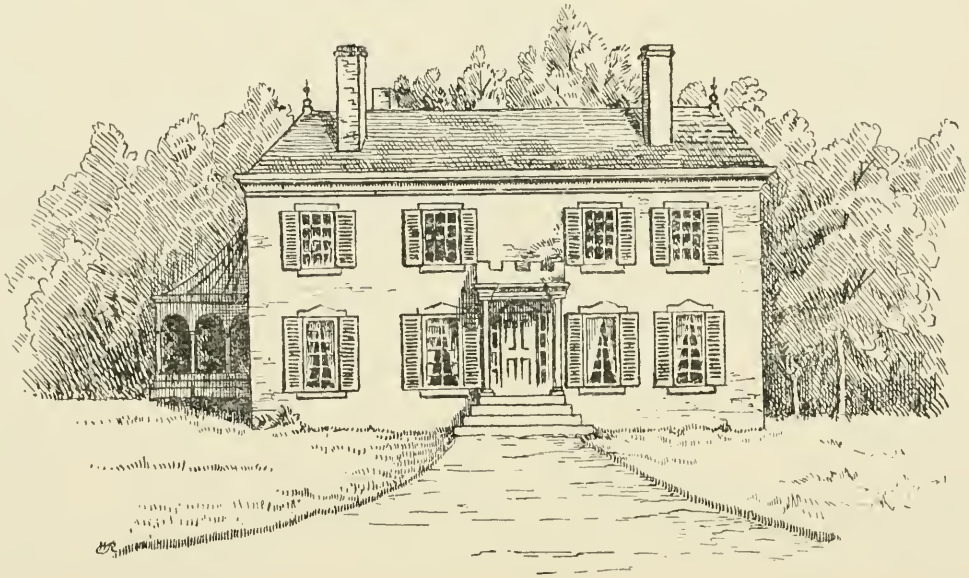
"The Provincial Exhibition was held at Toronto on the 21st and 22nd days of October, 1846. As the writer of these lines had at that time never seen Toronto, then as now, the chief city of the Province, and as all the steamboats were going to carry passengers to the Exhibition at half fare, we thought we would go, see the city and take in the Exhibition at the same time. As that was before the time of railways, all had to travel by steamboat that could.

At that time the steamboat "America," Capt. Kerr, ran from Toronto to Rochester, calling, going and coming, at all the ports on the north shore as far east as Cobourg. On the Monday afternoon before the show he took in passengers' stock and articles at Cobourg for the show, intending to call at the other ports and take up passengers and stock; but after leaving Cobourg the wind rose and the lake got rough, so that the boat had to run for Toronto without calling at any of the ports, disappointing some from getting to the show. It rained through the night, was wet when we got to the city, but as the boat and some of the passengers had come from Rochester, we were not allowed to land till after daylight, nor until a customs officer came to see that we had nothing excisable in our possession. After landing we spent the day seeing the city, which was then very much less than it is now.

What may be called the indoor department of the show was held in the old Government House—at that time empty. In the different rooms, upstairs and down, were shown ladies' work and fine arts, domestic manufactures, butter and cheese, and honey, grain and seeds, roots and other items that make up the indoor part of the show. These rooms did fairly well, though they had been built and used for far different purposes.

The few implements were shown on the grounds around. No reaping or mowing machines were shown, although prizes had been offered for both, threshing machine and one small clover cleaner. Our township shows now have a better assortment of implements than was shown at the first Provincial Exhibition.

On our way home we came down the lake with some parties from the State of New York who had been at the show. They seemed highly delighted, and somewhat astonished at stock and other articles shown.



Elmsley House, southwest corner of King and Simcoe Streets, Toronto, where the first Provincial Exhibition was held in 1846.
(Cut loaned by Mr. Frank Yeigh.)

Thought it equal to their State Fair, except in light horses and implements. In these we were far behind their shows.

The most of the stock exhibited was from the neighborhood of Toronto, as any brought from a distance that could not come by the steamboat had to be driven and other articles brought in wagons. The show of stock, though not large, was generally good. Some Durham cattle, exhibited by Howitt, Guelph, were much admired. There were only two classes for cattle, one for Durhams and the other for Herefords, Devons and other improved breeds. In sheep there were three classes—Leicesters, Southdowns and Merinos, or Saxons. Considering the short notice, the late time, and the state of the roads, the show was as good as could have been expected.

There was a plowing match some distance from the city, but we did not see it. There was a public dinner on the evening of the first day of the show, said at the time to have been a grand affair, attended by many of the most public men of the city. We did not see it.

When at the city we stopped at a friend's house, close to the York toll-bar. From there to the city was a long walk, through woods. The space has long since been built over, and is now part of Toronto. At that time they were setting the poles for the first telegraph line to Toronto. It was to join the United States line at Niagara.

It seemed to us that the Exhibition was not well managed. On going into the grounds we were told we could go out and in through the day for the one payment. They would not give us any ticket, but told us they would know us all—a thing impossible. Some one discovered some back way where hundreds got in without paying before it was discovered, and the place stopped up."

EARLY MARKETS AND FAIRS.

Just how closely our Agricultural Fairs or Exhibitions are related to the old fairs of the British Isles and of Europe is uncertain. Gatherings appear to have been held at first for religious worship, the meetings being at some sacred shrine or place of miraculous or holy associations. These great concourses of people needed to be fed—booths for supplying meat and drink were soon followed by stalls, or stands, for selling all sorts of goods. The introduction of amusement features came inevitably, and ere long the fair became a strange mixture of worship, trade and merry making. Some laws were necessary in connection with these periodical gatherings, and hence the establishment of what were known as "Courts of Piepoudre." These Courts are well explained in the following extracts :

"Piepowder, or Piepoudre: An ancient court of record in England, once incident to every fair and market, of which the steward or owner or holder of the toll was the judge. It was instituted to administer justice for all commercial injuries done in that fair or market, but not in any preceding one." (Imp. Dict.)

"The lowest, and at the same time the most expeditious, court of justice known to the law of England is the court of piepoudre, curia pedis pulverizati, so called from the dusty feet of the suitors; or, according to Sir Edward Coke, because justice is there done as speedily as the dust can fall from the foot." (Blackstone.)

It will thus be seen that the settling of certain disputes by the Directors of an Agricultural Exhibiton had its counterpart in some degree in the old "Court of the Dusty Feet."

This old English Fair was introduced into Upper Canada and received official sanction or authorization, and is well worth considering in connection with the history of our live stock industry.

Before giving the record of such an early fair, reference might be made to the establishment of markets in the early days of our oldest towns. The market was the first organization of town government.

On July 9th, 1801, the market of Kingston was established by Statute, as follows:

"On and after the passing of this act, it shall and may be lawful for the Commissioners of the Peace in the Midland District, in their Court of Quarter Sessions assembled, and they are hereby authorized and empowered to fix upon and establish some convenient place in the Town of Kingston where Butcher's Meat, Butter, Eggs, Poultry, Fish and Vegetables shall be exposed to sale; and to appoint such days and hours for that purpose, and to make such other orders and regulations relative thereto as they shall deem expedient."

The Commissioners were also empowered to impose fines (not exceeding 20 shillings) for any offence committed against such rules and regulations.

Similar Acts were passed providing for the establishment of markets in the following towns : York, 1814; Niagara, 1817; Cornwall, 1818; Perth, 1822.

The above statement gives us the simple beginning of town organization in Upper Canada, and is given herewith to show wherein the market differed from the fair.

I am enabled to give the following Letters Patent authorizing the holding of a Fair at Frankford in the Township of Sidney, in 1838, through the kindness of Mr. W. N. Ponton of the Belleville Historical Society. In 1858 Sheriff Moodie was authorized to hold a similar fair or mart at Tweed, in the Township of Hungerford, Hastings County. The cattle fair was a well established institution in all parts of Ontario up to a few years ago, and doubtless official sanction was required in all counties or districts.

[Seal.] UPPER CANADA.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, QUEEN, Defender of the Faith, &c., &c., &c.

TO our trusty and well beloved ALLAN MACDONELL, our Sheriff of the Midland District in our Province of Upper Canada, and to all to whom these presents shall come.

GREETING :

WHEREAS it has been represented to us that the establishment of a fair or market at the village of Frankford in the Township of Sidney, in the Midland District would tend greatly to the welfare and convenience of the inhabitants of the said district; NOW know YE that, being desirous of promoting by every means the prosperity of our subjects, WE, of our special grace, certain knowledge and mere motion, HAVE given and granted, and by these presents DO give and grant unto Allan MacDonell aforesaid, being our Sheriff of the said district, and to his successors respectively, being Sheriffs of the said district for the time being, ALL and singular, the public Fair and Mart, and the right, privilege, advantage and franchise of keeping and holding a public Fair and Mart as stewards of the same, respectively at and within the said village of FRANKFORD, together with

Note. Frankford is a village in Sidney Township, on the River Trent. In early days it was known as "Cole's Creek," or "Scott's Mills." The story is that Sir Francis Bond Head came to the settlement on a journey westward, and, being requested by the people to give it a name, called it "Frankford." This must have taken place within a short time of the issuing of the Letters Patent. The bridge was not constructed until some years later.

all the privileges, customs, usages, Courts of Pie Poudre incident to Fairs and laws of fairs in general, as now established, used and exercised within that part of Great Britain called England, TO HAVE and TO HOLD the said Fair Mart Franchise, right hereditaments, and premises, to him the said Allan MacDonell, Sheriff of the said District, and to his successors forever, being Sheriffs of the said District, to and for the use, benefit, resort and intercourse of all our liege subjects of our Province of Upper Canada, to be used and exercised at the several times and for and during the periods hereinafter mentioned, that is to say, at the several times in each and every year, to wit, to begin and to be holden on the first Tuesday in April and the first Tuesday in October, in each and every year at nine o'clock in the morning, and to continue at each time respectively until sunset, SUBJECT NEVERTHELESS to the powers, provisoes, restrictions, payment of piccage and stallage conditions and limitations hereinafter mentioned, that is to say, PROVIDED ALWAYS, and it is in the true intent and meaning of these presents, THAT all and every person and persons bringing and exposing to sale any goods, wares and merchandizes within the said Mart and Fair shall pay unto the said Allan MacDonell and to his successors respectively, being Sheriffs of the said District, such sum or sums of money by way of toll for the license of keeping and erecting a stall or booth, or otherwise using or occupying any space or plot of ground within the said Fair and Mart during the continuance of the same for the purpose of selling, vending, or disposing of by barter or otherwise any goods, wares or merchandize, cattle, horses, sheep, hogs, or any other live stock, within the said Fair and Mart, as our Justices of the Peace, in Quarter Sessions assembled, or the major part of them, shall from time to time, in their discretion, adjudge and determine to be paid: AND WE Do hereby give and grant unto the said Justices, or the major part of them, in Quarter Sessions assembled, as aforesaid, full power and authority to fix, adjudge, and determine the tolls of the said Fair and Mart, accordingly, and from time to time to vary and alter the same, and substitute greater or lesser Tolls, according to emergency, as the said Justices or the major part of them assembled as aforesaid shall think proper; HEREBY also giving and granting unto the said Sheriff and his successors Sheriffs for the time being of our said District, as Stewards of the said Fair and Mart, full power to levy and enforce the payment of such tolls, as fully and effectually, to all intents and purposes, as if the same had been herein specifically named and given or granted to our said Sheriff and his successors as aforesaid: PROVIDED ALWAYS that all sums of money thus collected shall be solely appropriated towards the clearing away the plot of ground whereon the said Fair and Mart shall be kept, and towards other the incidental expenses necessary to be incurred in making the said Fair stead convenient and commodious, and most useful to the public at large; PROVIDED ALSO that nothing herein contained shall extend to the prejudice or common nuisance our liege subjects of our Province of Upper Canada.

IN TESTIMONY whereof, We have caused our letters to be made patent, and the Great Seal of our said Province to be hereunto affixed. WITNESS, our trusty and well beloved SIR GEORGE ARTHUR, K.C.H., Lieutenant Governor of our said Province, and Major General commanding our forces therein at Toronto, this Eighth day of June in the year of our Lord one thousand eight hundred and thirty eight, and first of our Reign.

By command of His Excellency,

D. CAMERON, Sy.

C. A. HAGERMAN,
Attorney-General.

The old time yearly cattle fair or horse fair has well nigh disappeared from our Province,—it came to us with official sanction, along with our Constitution, from across the sea; and if you are interested in tracing back its origin for a thousand years or more, I would refer you to a small book published a few years ago by Eyre & Spottiswoode of London, England, entitled, "The Law Relating to Markets and Fairs," by L. Gaches. On the title page is this statement :

"Three women make a market, four make a fair."

The following extract therefrom may be of interest :

"The village fair has become unwelcome to good folk; of old it gladdened the hearts of all. They were dependant thereon for a supply of cloth, linen, pottery, and the thousand articles wanted to use in the house and out of it. Shakspere enumerates the fairings of the pedlar's stock.

"To the village the chapman and the pedlar came; to large towns merchants flocked from all Europe ; Spanish armour, Venetian produce of the East, Italian silks and glass; the Flemish weaver, with linens from Ghent and Bruges ; and the clarets of Gascony and Rhenish wines. International trade is carried on by barter ; the foreign merchant exchanged his goods for English wool. The records of the fairs of England have preserved for us the history of prices.

"Fairs are distinct in origin from markets. A fair is for a period, and occurs but once a year ; a market is on any one day. Old authorities define a fair as a saint's holiday, and the earliest charters are grants to abbeys and priories ; that of Saint Bartholomew is to the prior, A.D. 1133 ; that of Sturbridge by King John, A.D. 1211, granted to the Lepers of the Hospital of St. Mary Magdalene.

"Where tolls are mentioned in the charters they are granted for the purposes of religion and charity. In 1538, at the dissolution of the monasteries, the rents of booths at fairs were seized by the Crown as being within the Statute of Chantries, granted for the maintenance of obits.

"The duration of the fair is prescribed by the charter; persons who trade after fair days forfeit double value of the things sold.

"'Feria' is the ecclesiastical term for a saint's day. The feast, or wake, of the patron saint of the parish is the fair of modern times. It was holden in the churchyard till forbidden by the Statute 13 Edw. 1, c.6. Gregory the Great, in his letter to Mellitus, A.D. 601, directs 'some solemnity' to be provided for the English in lieu of their former celebrations, 'that they may build themselves booths from the boughs of trees about those churches which have been turned to that use from temples.'

"The gatherings at such festivals were used not only for religious purposes, but also for pleasure and for business. In the Boldon Book, a survey of the Palatinate of Durham, taken in 1183, the rustic tenants rendered the service of making lodges and booths at the fair of St. Cuthbert.

"The most ancient and famous fair in England is that of Sturbridge, which is holden in a field near the site of the Priory of Barnewell, at the side of the Cam, where the Stour inruns about one mile from Cambridge. This fair was proclaimed on September 4th, the due proclamation being a condition of exercising the franchise : it lasted three weeks.

"The charter at St. Giles' Fair, at Winchester, secures the government of the city and neighborhood for a circuit of seven miles round St. Giles' Down, to the officer of the Bishop for the whole period of the fair.

"In very early times the concourse of people at fairs was promoted by proclaiming a special truce, which was afterwards known as the 'peace of the Fair'.

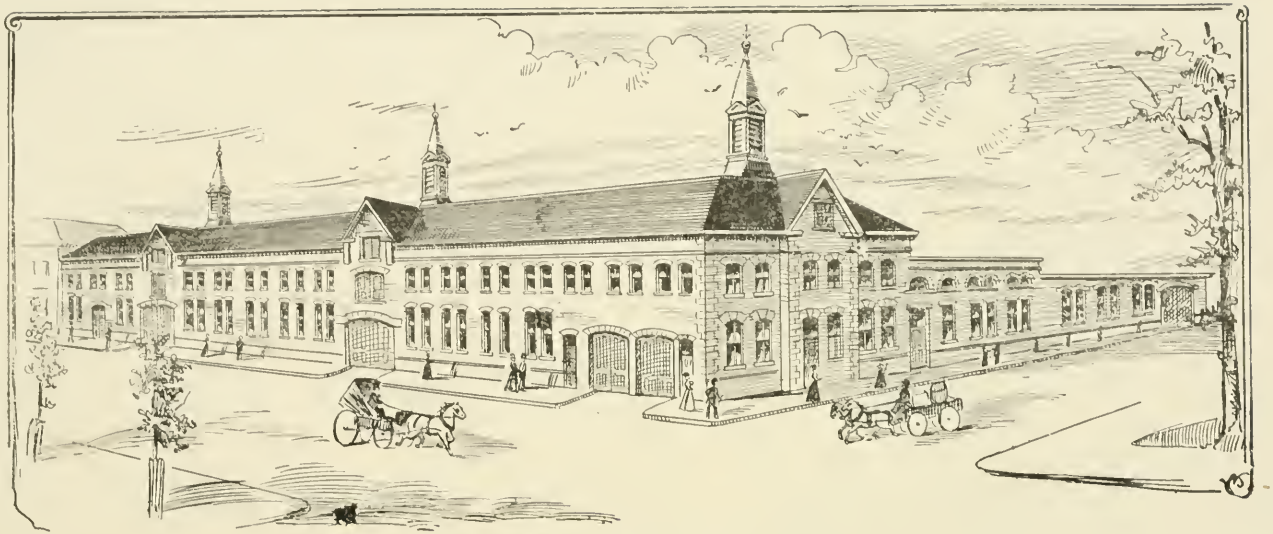
"The Peace of the Fair prevailed in all fairs, but in the charter of Sturbridge, A.D. 1132, it is by grant, viz.: 'I grant also my firm peace to all

persons coming to and returning from the fair which is wont to be celebrated in that place at the feast of St. Bartholomew ; and I forbid any of the royal servants to implead any of their persons on those three days or on the eve of the feast, the feast itself, and the day following, or to levy dues on those going thither.'

"After the Conquest the fair was treated as a valuable franchise derived from a prerogative of the Crown ; it was then reconstituted on the Continental model.

"London fairs were abolished before 1855 ; those of Paris were swept away at the Revolution. French fairs are of great antiquity ; those of Aix-la-Chapelle and Troyes flourished in the reign of Charlemagne; to the latter we owe the pound Troy. Weekly markets may be traced to the Tithings, who held their free-borough once a week; people coming thither to have their matters settled brought their corn and beasts for sale. It was only there they could meet one another in safety.

"The privilege of fair comprises that of market, so the general law is applicable to one as it is to the other. Fairs were regulated by the Court of Piepoudre, in which the steward of the lord of the manor was judge. This obsolete court acquired its title from the 'dusty feet' of its suitors. It was a court of record, wherein justice was administered with respect to all commercial wrongs at the time they arose. Abuses of the process of the court were common."



Provincial Winter Fair Building, Guelph, Ont., 1902.

BINDING SECT. AUG 24 1967